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ABSTRACT

This document is a report of the quantitative trends in teaching staff in higher education in 21 major countries. Part 1 of the study consists of the country studies. Wherever possible teachers were divided into 3 groups according to level: (1) senior level teachers, consisting of ordinary and extraordinary professors; (2) junior level teachers, consisting of assistant lecturers, teaching assistants and auxiliaries, and other university staff of the same level; and (3) middle-level teachers or teachers that come between the 2 groups above, such as lecturers. Further distinctions were made where possible between university and nonuniversity higher education and fields of study. Student-teacher ratios are given in the country studies whenever they are significant, and each country study concludes with a short summary of the essential features relating to that country. Part 2 is a consolidated summary of Part 1, and attempts to make an international comparison to discover features common to all countries and those peculiar to some of them. (HS)

ED 061868

STUDY ON TEACHERS

QUANTITATIVE TRENDS IN TEACHING STAFF IN HIGHER EDUCATION

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(The countries listed above follow the French alphabetical order).

PREFACE

In preparation for the Conference on Policies for Educational Growth, organised by the OECD in Paris from 3rd to 5th June, 1970, a set of Background Studies was drawn up, dealing with various aspects of the development of education systems over the last ten or fifteen years. The question of the resources, both human and material, allocated to education, and the use made of them, was the subject of a number of Background Studies, one of which dealt more particularly with Teaching Staff and Educational Expansion in OECD Member Countries since 1950.

Data, both quantitative and qualitative, were available for primary and secondary education in the seven volumes of monographs published in 1968 and 1969, in the series of documents Study on Teachers and the consolidated report on the series, Training, Recruitment and Utilisation of Primary and Secondary School Teachers (to be published shortly). On the other hand, no study had been made - even quantitatively - of the recent trend of teaching staff in higher education.

In order to make the Background Study cited above as exhaustive as possible, the Secretariat decided to carry out an ancillary study on Quantitative Trends in Teaching Staff in Higher Education. Following the pattern of the earlier studies on primary and secondary teachers, this survey takes the form of individual country studies, followed by a short consolidated report, but all combined in a single volume. Unlike the studies on primary and secondary school teachers previously published, however, the present study on higher education deals with quantitative trends only and not with qualitative trends.

As will be seen below, nearly all OECD Member countries checked and completed the statistics compiled by the Secretariat. It was in view of the fact that this work, undertaken at international level for the first time, very largely met the same concerns which had led to the publication of the earlier volumes on primary and secondary education, that the Secretariat decided to publish it in the same series. It goes without saying that the reading of this study could very usefully be supplemented, on the quantitative trend of student enrolments, by the Secretariat studies on The Development of Higher Education, 1950-1967, Country Statistics (OECD, Paris, 1970) and on The Development of Higher Education, 1950-1967, Analytical Report (to be published shortly).

This study on Quantitative Trends in Teaching Staff in Higher Education has been compiled by the Secretariat. It has been drafted by Madame Marie-Louise Raissis, Consultant to the Directorate for Scientific Affairs in co-operation with Mr. Pierre Laderrière, of the same Directorate.

FOREWORD

This study of quantitative trends in teaching staff in higher education consists of a series of country studies followed by a consolidated report.

To ensure the maximum precision, the basic statistics were submitted for checking to the authorities of the countries concerned. The country studies were supplemented, and where necessary amended, in the light of answers to a series of "complementary questions" sent out to the national authorities.

To make it easier to assess the significance of changes in numbers of teachers, the corresponding changes in the numbers of students were also studied. The research done consisted, in the main, of the collection of statistics for the period 1950-1965, and a critical examination of the data obtained.

National authorities who checked the statistical data and submitted replies to the "complementary questions" sent out by OECD

Germany	Secretariat of the Standing Conference of Ministers of Education of the Laender of the Federal German Republic.
Austria	Ministry of Education - Department for University Affairs.
Belgium	General Secretariat for Science Policy Programming. Prime Minister's Office.
Canada	National Statistics Office - Education Division.
Denmark	Ministry of Education.
Spain	Ministry of Education and Science.
United States	Institute for International Studies - International Education Service - Department of Health, Education and Welfare.
France	Ministry of Education - General Directorate of Higher Education.
Greece	Social Policies Directorate - General Directorate I - Ministry of Co-ordination.
Italy	Ministry of Education - Scientific Affairs Inspectorate - Higher Education Directorate.
Japan	Ministry of Education - Secretariat - Research Division.
Norway	Ministry of Education and Ecclesiastical Affairs.
Netherlands	Central Bureau of Statistics - Department of Education.
Portugal	Portuguese Delegation to the OECD.
United Kingdom	Great Britain: Department of Education and Science. Northern Ireland: Ministry of Education.
Sweden	Budget and Planning Secretariat - Ministry of Education.
Turkey	Social Planning Department.
Yugoslavia	Federal Council for Education and Culture.

GENERAL INTRODUCTION

The following is a description of the general plan of the study, and the difficulties and limitations encountered in carrying it out.

A. THE PLAN OF THE STUDY

Part I consists of the country studies. Wherever possible teachers were divided into three groups according to level:(1)

- senior level teachers (SL), consisting of ordinary and extraordinary professors;(2)
- junior level teachers (JL): assistant lecturers, teaching assistants and auxiliaries and other university staff of the same level;
- middle level teachers (ML): teachers coming between the two groups above, such as lecturers (chargés de cours, maîtres de conférence, etc.).

Where the available statistics allowed, further distinctions were made between university type and non-university type higher education(3) on the one hand, and fields of study according to the classification suggested by the OECD in Methods and Statistical Needs for Educational Planning(4), i.e.:

Pure sciences
Architecture
Technology
Agriculture
Medical sciences
Humanities
Education
Fine arts
Law
Social sciences
Other.

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(1) One of the main reference works used was "Structure of University Staff" (Education in Europe, series I, higher education and research, No.3, published by the Council of Europe in 1966).

Other reference works used were the UNESCO study World Survey of Education, Volume IV on higher education; two studies by the IAUPL (International Association of University Professors and Lecturers): The Recruitment and Training of University Teachers (1967, Ghent) and The Status of University Teachers (1961, Ghent); and certain other studies. As will be seen under point B, a classification of this kind is bound to be more or less arbitrary, and inter-country comparisons are made harder by the lack of uniformity in titles, grades and status of university staff in the various faculties in each country.

(2) The title "professor" is accorded with varying degrees of generosity in different countries. In Sweden, for example, assistant professors are usually teachers with very high qualifications. In some countries the title of honorary professor is conferred in recognition of personal work. Honorary professors are not members of university staffs, but do their work outside the university, although they may give some lectures within the university (see on this point World Survey of Education, UNESCO, Vol.IV, p.192). In this study an attempt has been made to classify teachers according to the actual level of their activities.

(3) In the following pages the terms "type" and "level" are used neutrally, neither of them implying any qualitative or hierarchical distinction between university and non-university teaching.

(4) OECD, Paris (1967); the annex to this Introduction sets out the main fields of study adopted by the OECD and followed in this study.

It will be observed that the consolidated report has a much narrower scope because, on the one hand, it excludes some fields of university type study and some non-university level teaching, and, on the other hand, it takes no account of the part played by women teachers and part-time teachers or of additional teaching hours. The data collected can, in fact, be used for certain comparisons over time within individual countries, but are too disparate to be used for inter-country comparisons.

Wherever the data allow, tables of staff and students in the annexes to the country studies give absolute figures, the corresponding indexes of trends and changes in the structure of the teaching body broken down by levels for the period 1950-1966.(1) Significant statistical series covering such a long period were not always obtainable. The great disparities between countries as regards the period for which figures were available made it necessary to take different base years for each country, the base year being always the one at the beginning of the statistical series. As a result, in order to make international comparisons it was necessary to work out average annual growth rates for teaching staff, both overall and by level, and for students. These rates relate to periods which partially overlap between countries, but which as far as possible fall somewhere within the period 1950 to 1965. Student enrolments have been given only when they could be meaningfully compared with the number of teachers. Furthermore, it will be seen in Part II that for some countries it was possible to compare the numerical trends of teachers and students for the period 1950-1965.

Student/teacher ratios for each country are given in the country studies whenever they are significant for the beginning and end of the period studied. For reasons given below, inter-country comparisons of these ratios can be made only with caution, their significance being relatively limited by all the reservations made in (B) below. Nevertheless, in Part II, reference is sometimes made to the quantitative staffing position at the beginning and end of the period so that the trends in numbers of students and teachers which emerge for each country can be related to a starting position which was more or less satisfactory, quantitatively. It is, in fact, possible to compare trends within a country, or even between different countries, on the basis of figures which are, in themselves, rough and ready and not particularly indicative of the situation at a given moment. What is significant in such cases is not the quantitative staffing position in a particular year, but the tendency which emerges for the period studied. Student/teacher ratios are therefore not considered here as an objective measure, but as a means of assessing the trend.

Each country study concludes with a short summary of the essential features relating to that country.

Part II is a consolidated summary of Part I. It is an attempt at an international comparison designed to discover which features are common to all countries and which are peculiar to some of them. But the reservations already made in this Introduction limit the extent to which this can be done, and the conclusions reached have had to be formulated very cautiously. Indeed it often seemed preferable to talk in terms of assumptions and questions rather than conclusions. This is also the reason why some of the aspects dealt with in the country studies have not been included in the consolidated summary, especially where the information collected relates to only a few countries or is too general in character or too limited in time. As a result, the summary is narrower in scope than the country studies. It deals mainly with the comparative trends in numbers of teachers (at the three levels) and students in university type institutions between 1950 and 1965.

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(1) The composition of the teaching body according to the three levels used in this study and their respective qualifications have been described in each of the country studies. These data are given in tabular form in annex to each of the studies. For the sake of brevity, the notes to the tables in annex have usually not been repeated in the text. Nevertheless, wherever it seemed desirable, references are given to sources of additional information necessary to appreciate the argument in the text.

Even though it has not been possible, with the data available, to arrive at firm and really satisfactory conclusions - or perhaps for that very reason - this study is valuable as indicating the still unexplored areas which urgently need investigation and at the same time giving a general view of the state of affairs in OECD Member countries.

B. DIFFICULTIES ENCOUNTERED IN THE STUDY, AND ITS LIMITATIONS

The first difficulty arises out of the inadequacy of the statistical data, the differences in the breakdowns available for teachers and for students, and changes in the statistical approach - the significance of which it is often impossible to assess - which cause artificial breaks in the series. Nevertheless, in several cases where the coverage was less than total it proved possible to make quite representative selections of teachers and students belonging to a large number of establishments. It was thus possible to make meaningful comparisons between the growth of the teaching staff in these establishments and the increase in the numbers of students they were teaching. In addition, the statistical series were abridged, or several distinct periods were chosen, whenever that seemed preferable to incurring the danger of misinterpretation, by formally readjusting the statistics.

Further, since there is no uniformity in higher education systems between countries and sometimes between the universities or higher education establishments within the same country, comparisons are rendered more difficult by the heterogeneous character of what is being compared. Requirements differ from country to country as regards qualifications, past experience in research and teaching, and publications and other personal work necessary for teaching. Whereas in some countries a particular degree or diploma is the sine qua non for membership of the teaching staff or for promotion to a higher level, in other countries no such conditions are imposed.

This brings us to the subject of the differences in the qualifications required for appointment to established posts or for holding certain ranks in the university hierarchy. To minimise the confusion due to these differences, an attempt has been made in Part I to provide at the beginning of each country study a brief description of the regulations and other requirements which teachers must satisfy at the commencement of their academic careers and thereafter for successive promotions up to the level of full professor. The rapid summaries made for this purpose lead us to believe that, in this respect at least, the differences between countries are often more apparent than real, particularly as far as higher level teachers are concerned.

Indeed, it would be wrong to give too much weight to the disparities existing between countries as regards the criteria to be satisfied for starting an academic career, becoming a permanent member of the teaching staff and climbing the successive rungs of the promotion ladder. Generally speaking a doctor's degree is almost always necessary to teach in a faculty other than as an assistant or lower level teacher. In some countries, additional qualifications are required of candidates at various levels. There is, for example, the Habilitation in Germany, Austria and some Swiss cantons.

It should also be noted - and this is a vital point - that the teaching schedule varies considerably both from country to country and from one university to another, and according to the level of teaching. In some countries a teacher is regarded as working full-time if he does three hours of teaching per week, whereas in others he may be expected to do six or eight hours or even more. Furthermore, the total number of lectures given per year by a full professor is usually much less than that given by a maître de conférence, a privatdocent or a premier assistant. On the other hand the "quality" of the lectures given by a professor is expected to be higher than those given by assistants.

A further point is that in some countries, especially in the United Kingdom, university teaching staff have additional responsibilities for supervising and advising individual students or groups with whom they have frequent contacts outside the formal courses. This "tutorial" system implies generous staffing ratios and makes considerable demands on teachers' time and energy. It is of no little importance therefore, both from the quantitative and qualitative points of view, to know who teaches what, and what the teaching loads are in each country and at each level of teaching.(1)

Another difficulty is that the statistics provided may include details of part-time teachers and students. It often proved impossible to distinguish between full-time and part-time teachers. In some cases countries provided a weighting coefficient (usually 1/3). To avoid arbitrary interpretations, this coefficient has not been applied to the other countries which made distinctions between full- and part-time teachers but which failed to provide a basis for conversion. In some cases it is difficult to know whether part-time teachers are included or not in the figures provided. In some countries the proportions of part-time teachers in the total teaching body may be negligible, in others, very large. Wherever possible, care has been taken to deal with this point either in the text itself or in footnotes to avoid wearying the reader with too much detail.(2)

For certain countries, either only partial data were available for the broad divisions of subjects taught or the breakdown of teachers by faculty did not lend itself to the classification proposed by OECD.(3) In these cases new aggregates and breakdowns had to be made, which means that the figures for students are not the same as those given in country reports on students as presented by OECD.(4) With different faculty breakdowns it is not surprising that the figures differ.

It also proved impossible in most cases to avoid some double-counting where teachers are teaching in several fields of study at the same time. It is therefore likely that overall numbers of teachers are too high. However, in the countries where it has been possible to correct this, the margin of error caused by double counting proved to be small. It can be assumed that for the other countries where the error could not be identified it was also negligible.

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(1) In Norway, for example, professors have to give five lectures a week. Nevertheless, if they are also heads of department, their teaching duties are reduced. Until 1963 assistant professors did three hours of lecturing per week, but were expected to devote more time to research. Since 1963, the Senate has given them five hours of teaching per week. At a lower level come the lektors and førsteamanuensis, who have to teach between 8 and 12 hours per week. At the other extreme are the universitets-stipendiat whose main activity is research, and who as a general rule are not called on to lecture for more than two hours a week.

(2) In England, and more generally, in the English-speaking countries, the numbers of part-time teachers are very small. In other countries, on the other hand, they can amount to almost 40 per cent of the teaching staff in terms of numbers (there is usually no recognised full-time equivalence).

(3) On this point see annex to this Introduction, an abstract from the book published by OECD on this subject: Methods and Statistical Needs for Educational Planning.

(4) Development of Higher Education, 1950-1967 - Statistical Survey, OECD, Paris, 1970.

In some countries teachers devote a significant amount of their time to research. It is then usually impossible to tell what part of their activity should be attributed to teaching. It should also be noted that the statistics on teaching staff published in several countries often include persons who take part in university activities without any responsibilities for teaching or for supervising practical training, such as hospital assistants, etc. It has not always been possible to ascertain whether this type of staff was included or not since the figures provided often lacked the detail necessary for any logical deduction on this point. This is one of the reasons for apparent anomalies in estimates based on figures from different sources. Since such staff are often numerous, the resulting disparities were sometimes quite large.

The part played by assistants in teaching and the tutorial supervision of students varies considerably according to the country, the type of establishment, the field of study and the level of requirements year by year. These assistants are not always included in the statistics available. What is more, it is not always clear from the source of documentation whether they are included or not. But the proportion of assistants in the teaching body as a whole is rapidly increasing, sometimes being as high as 50 per cent. That is why a special effort was made to obtain as much additional information as possible in the answers to the "complementary questions" submitted to the countries concerned.(1)

Some countries second members of their university staffs to teach abroad (under co-operation agreements, for example). It is difficult to know whether these teachers are included or not in the statistics provided. As a general rule they seem to be excluded from the figures submitted.

Further, it is well known that student/teacher ratios are much less indicative of the size of classes and the actual numbers of students attending lectures in higher education than they are for secondary education and even more for primary education. Average numbers of participants in courses or practical training would certainly have been much more representative. Unfortunately in the majority of cases these were not available or proved impossible to calculate.

The significance of these ratios is moreover linked with the "size" of the school or field of study. Where there are few students, a higher proportion of teachers is required to cover the various subjects taught. Thus the staffing ratios are generally much lower for Agriculture than for the Humanities or the Social Sciences, without necessarily being much more satisfactory in practice if the schools have not reached the optimum size.

International comparisons of numbers of teachers or student/teacher ratios are also limited in significance by all the differences in the regulations relating to courses of study such as the exact duration of the course, whether attendance at lectures or practical training periods is compulsory or voluntary, differences between disciplines or universities in the same country where the universities enjoy a large measure of autonomy, between States or Cantons (for confederations like Switzerland or the United States) and between countries.

Further, this report is written in terms of averages which cover extremely diverse situations. The fact that the weekly hours taught by teachers are much less than the weekly hours of courses attended by students again limits the significance of student/teacher ratios.

All these reservations amply justify the refusal to make hasty comparisons of ratios calculated for the various disciplines within the same country or the same discipline in different countries.

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(1) See above in the Foreword under "National authorities who checked the statistical data and submitted answers to the 'complementary questions' sent out by OECD".

It should also be noted that for some countries there are no figures at all for teachers engaged in non-university higher education. Sometimes the distinction between "higher university" and "higher non-university" is not made or does not exist. That is why Part II omits "higher non-university", for which data are scarce at international level.

Finally it must be said that a study dealing only with the quantitative aspect of trends in university staff compared with student enrolments must necessarily be limited in scope and significance.

Indeed, in discussing education, decisions as to what constitute optimum, ideal quantitative ratios between teachers and students are bound to be arbitrary. Similarly, it is difficult if not dangerous to try to interpret figures, and the student/teacher ratios which have been calculated from those figures, without at the same time taking into consideration the qualitative factors which determine the nature and value of the education given.

In approaching the subject of quantitative trends in teaching bodies, the object is therefore to deal with only one aspect of the way in which supply has managed to cope with requirements. The quantitative question, once dealt with, will provide a sounder basis for later qualitative studies since, in this field, quantity and quality are necessarily closely inter-related. In other words, to be more meaningful, the quantitative approach should be accompanied by a qualitative study based on objective facts which will fill in the details of a picture which, based on figures alone, would be too one-sided and simple. Further, it will serve as a warning against the illusion that an exact picture is being presented whereas the underlying reality is much more complex and difficult to grasp.

It must be remembered therefore that this study is subject to two kinds of limitations:

(a) it is deliberately confined to the quantitative aspects of staffing in higher education;

(b) the statistical weaknesses, periodic changes in methods of collecting numerical data, ambiguities in definitions of teachers, disparities in teaching schedules, duties and levels, etc. have introduced other limitations - unintentional in these cases - which must also be taken into account, especially in trying to formulate conclusions.

ANNEX TO THE GENERAL INTRODUCTION

List of fields of study distinguished by the OECD:

"Methods and Statistical Needs for Educational Planning"

I. UNIVERSITIES AND EQUIVALENT INSTITUTIONS:

1. Pure sciences:

   Astronomy
   Bacteriology
   Biochemistry
   Biology
   Botany
   Chemistry
   Entomology
   Geology
   Geophysics
   Mathematics
   Meteorology
   Mineralogy
   Physics
   Zoology
   Others

2. Architecture

3. Technology:

   Applied sciences
   Construction
   Geodesy
   Metallurgy
   Mining
   Surveying
   Technology
   Textile engineering
   Others

4. Medical sciences:

   Anatomy
   Dentistry
   Medicine
   Midwifery
   Nursing
   Optometry
   Osteopathy
   Pharmacy
   Physiotherapy
   Public health
   Surgery
   Others

5. Agriculture:

   Agricultural economics
   Animal husbandry
   Crop husbandry
   Dairy farming
   Fisheries
   Food technology
   Forestry
   Horticulture
   Soil and water sciences
   Veterinary medicine
   Others

6. Humanities:

   Archaeology
   History
   Languages
   Library science
   Literature
   Philosophy
   Psychology
   Theology
   Others

7. Fine arts:

   Drawing
   Music
   Painting
   Sculpture
   Speech and dramatic art
   Others

8. Education:

   Education
   Pedagogy
   Physical education

9. Law

10. Social sciences:

   Banking
   Commerce
   Diplomacy
   Economics
   Ethnology
   Geography
   Home economics
   International relations
   Journalism
   Political science
   Public administration
   Social welfare
   Sociology
   Statistics
   Others

11. Others (n.e.c.)

   Total: Universities and equivalent

II. OTHER INSTITUTIONS OF HIGHER EDUCATION:

(same breakdown as above)

Total:

PART I

GERMANY

I. Criteria for the recruitment and promotion of teachers

The training of teachers of university level generally involves the following stages: after university training and a final examination leading to the "Diplom-Prüfung" or "Staatsprüfung" the candidate becomes an assistant in a university for a number of years. During this period he prepares his "Habilitation" which consists of a written dissertation on the research work undertaken and which serves as a basis for judging his capability to continue research work. In addition to the dissertation he must also prepare a lecture, followed by a colloquium which he gives in the presence of a faculty board of examiners. Successful completion of these requirements leads to the "venia legendi", that is, the right to lecture and to direct seminars in the field in which he has obtained his "Habilitation". But a candidate may be appointed professor on the strength of independent high-level research work which does not constitute an Habilitation. This can be the case, for example, in the engineering sciences. The Habilitation is a proof of research-mindedness rather than of teaching ability. However, it is considered that an assistant lecturer's duties promote the development of his teaching proficiency inasmuch as they partly consist of teaching and often bring him into close contact with his students. When a candidate has obtained his "venia legendi" he generally becomes a "privat-docent". He then has the status of a temporary civil servant.

Mobility in German universities is relatively high. However, to enable him to do research in depth the candidate must normally have spent a minimum of three years in a university before being appointed elsewhere. International mobility is not fostered by the rules which at present prevail in Germany. Nevertheless, up to two years' leave of absence may be granted to members of an academic staff when they are appointed to one of the eleven Länder and attached to the Institutes of Research and Higher Education if such leave of absence is considered to be in the country's interest.(1)

II. Trends in the numbers of teachers and students in higher education

A. University education

1. Numbers of teachers and students, and student/teacher ratios

The figures used for this study are shown in tables I and II in the annex. They are taken from the "Statistisches Bundesamt"(2). Apart from the figures submitted for the three years under review no corresponding statistics have been compiled.(3) A breakdown by field of study was made for teachers (table I) and also for students (table II).

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(1) Sources: Professor Werner Thieme and Dieter Halcour, The Recruitment and Training of University Teachers; R.H. Shryock, The Status of University Teachers, (IAUPL publications).

(2) Federal Statistical Service of the German Federal Republic.

(3) Answer to the "complementary questions".

The three censuses carried out in 1952, 1960 and 1966 showed the number of full-time university teachers. A number of student/teacher ratios have been worked out from these figures (see table A).

However, in the statistics provided in answer to the "complementary questions", students in West Berlin were always included whereas, for teachers, they were excluded for the years 1952 and 1960. It was therefore necessary to make an adjustment in the overall number of teachers for 1952 by adding to this figure the teachers in West Berlin. Since a breakdown for these teachers by field of study was not available, the adjustment has been made only for the university teaching body as a whole. This yields the following figures.

Table A

Trend in the numbers of university teachers and students
between 1952-53 and 1966-67 (a)

	Students	Teachers			
		Senior level	Middle level	Junior level	Total
1952-53	112,990	2,760	4,244	4,501	11,505
1966-67	266,428	4,663	8,307	13,584	26,554
Rate of growth 1952-1966	5.9%	3.8%	4.9%	8.2%	6.1%
Structural changes between 1952 and 1966	- -	24% 17.6%	36.9% 31.3%	39.1% 51.1%	100% 100%
Student/teacher ratios	Student/ Total	Student/ SL	Student/ ML	Student/ JL	Student/ SL + ML
1952-53	9.8	40.9	26.6	25.1	16.1
1966-67	10	57.1	32.1	19.6	20.5

Note: (a) West Berlin always included.

For breakdowns by field of study, figures for teachers in West Berlin were not supplied for 1966. These teachers therefore could not be deducted from the figures by field of study, although this could be done for students. This leads to an element of distortion in the following data which results in the fact that:

1) the student/teacher ratios by field of study seem less favourable than they actually were in 1952 and 1960;
2) the growth rate for teachers by field of study seems, on the contrary, to have been much more rapid between 1952 and 1966 than it actually was.

The reader should constantly bear in mind these two very important reservations in studying the following tables and the accompanying commentary.(1)

---

(1) Particularly, table B.

Table B

Student/teacher ratios in university education in 1952 and 1966

Field of study		S/SL (Students per senior level teacher)	S/ML (Students per middle level teacher)	S/JL (Students per junior level teacher)	S/SL + ML	Students/ teacher overall
Pure science	1952	34.8	21.5	21.7	13.3	8.2
	1966	41.4	20.2	13.5	13.6	6.8
Architecture	1952	64.0	77.0	49.7	35.0	20.5
	1966	51.6	37.5	19.8	21.7	10.4
Technology	1952	75.1	56.3	36.1	32.2	17.0
	1966	65.7	41.0	17.9	25.3	10.5
Agriculture	1952	34.0	27.6	21.5	15.2	8.9
	1966	22.0	10.4	7.6	7.1	3.7
Medical sciences	1952	40.9	17.5	8.3	12.3	4.9
	1966	67.3	16.9	9.7	13.5	5.6
Humanities	1952	29.1	48.0	80.9	18.1	14.8
	1966	49.3	40.7	40.8	22.3	14.4
Education	1952	52.4	45.7	36.3	24.4	14.6
	1966	1581.0	50.2	16.6	48.6	37.6
Law	1952	59.2	71.4	123.8	32.4	25.7
	1966	66.8	210.1	52.2	50.7	25.7
Social sciences	1952	95.0	68.6	113.4	39.8	29.5
	1966	96.2	126.5	42.6	54.7	23.9

Table C

Rates of increase by field of study of teachers at all levels
and students of university level in higher education (1952-1966)

(in percentages)

Field of study	Teachers				Students
	SL	ML	JL	Total	
Pure science	4.8	6.4	9.4	7.4	6.0
Architecture	4.2	7.7	9.2	7.5	2.7
Technology	4.6	5.9	8.7	7.1	3.7
Agriculture	4.4	8.2	8.7	7.6	6.8
Medical sciences	3.4	7.1	5.7	5.9	1.4
Humanities	3.8	8.7	12.5	7.7	7.5
Education	-16.0	4.8	-4.7	-0.9	5.5
Law	4.1	-2.3	11.2	4.9	4.9
Social sciences	6.6	2.4	13.8	8.1	6.6

2. Average annual growth rates of university staff and students between 1952 and 1966

For the period 1952-1966, these rates are shown in the aggregate in table A and by field of study in table C.

3. Structural changes in teaching staff

The changes expressed in quantitative terms are shown in table A and in table III in the annex. They show declines in senior level staff in all fields, varying trends for middle level staff (although they declined as a whole between 1952 and 1966) and relative increases in junior level staff in all fields of study except medical sciences and education.

In brief the following points emerged from an analysis of the available figures:

- senior level staff were generally the only ones which increased more slowly than students;
- junior level staff increased more rapidly than the other teachers in all fields (except medical sciences and education) and when considered as a whole;
- the teaching staff considered overall and by field of study (except in education) has increased more rapidly than the students.

B. Non-university higher education

The answers to the "complementary questions" produced various figures relating to teachers and students in non-university institutions of higher education. It was not always possible to distinguish between staff at various levels as in the case of university teaching. The following tables were compiled from the figures submitted.

1. Technical education

The answers to the "complementary questions" gave figures for full-time and part-time staff. These figures were supplemented by student enrolments as they appeared in the special OECD surveys devoted to quantitative trends among students in various countries.(1) Table D was compiled from these basic statistics.

Between 1958 and 1965 the trend in student/teacher ratios was as follows in non-university higher technical schools.

	1958/59	1960/61	1965/66
Students/full-time established teachers	17.4	16.5	14.1
Students/total teaching staff	13.6	12.2	10.0

2. Teacher-training colleges

In teacher training colleges the trend in numbers of teachers and students is shown in table E.

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(1) See the sources indicated at the bottom of each table.

Table D

Numbers of non-university type teachers and students in technology from 1955 to 1968

Year	Students		Established full-time teachers		of which		Non-established part-time teachers			
	Total	Indexes	Total(a)	Indexes	SL(b)	Indexes	Total	Indexes	Total staff	Indexes
1955/56			1,809(c)	80	-		-			
1956/57			1,966(c)	87	-		601(c)	94	2,567(c)	89
1957/58			2,155	96	-		608	95	2,763	95
1958/59	39,290	100	2,254	100	1,626	100	639	100	2,893	100
1959/60	41,697	106	2,404	107	1,709	105	699	109	3,103	107
1960/61	42,440	108	2,579	114	-		910	142	3,489	121
1961/62	47,319	120	2,771	123	2,023	124	926	145	3,697	128
1962/63	51,166	130	3,106	138	2,248	138	1,037	162	4,143	143
1963/64	54,118	138	3,389	150	2,416	149	1,266	198	4,655	161
1964/65	58,567	149	3,851	171	2,640	162	1,487	233	5,338	184
1965/66	60,616	154	4,314	191	-		1,730	271	6,044	209
1966/67			4,779	212						
1967/68			4,888	217						
Average annual rates of growth (1958-65)		6.4%	9.7%		(1958-64)	8.4%		15.3%		11.1%

Source: Federal Bureau of Statistics and Ministries of Education.
Development of Higher Education, 1950-1967 - Statistical Survey, OECD, 1970 (Germany).

Notes: (a) 1964/65 - 1967/68 including assistant lecturers (1965/66 = 503).
(b) Holders of a university degree (Engineering graduates).
(c) Excluding the Saar.

Table E

Teacher training staff in non-university type institutions of higher education
(Pädagogische Hochschulen)

Year	Students (a)		Established full-time teachers				Student/teacher ratios	
	I		II		III of which SL + ML		I/II	I/III
	Absolute figures	Indexes	Absolute figures	Indexes	Absolute figures	Indexes		
1964	45,480	100	2,753	100	1,901	100	16.5	23.9
1965	45,182	99	3,041	110	2,044	108	14.9	22.1
1966	53,985	119	3,086	112	2,062	108	17.5	26.2
1967	58,544	129	3,222	117	2,145	113	18.2	27.3
1968	-		3,331	121	2,160	114		
Average annual rates of growth 1964-67	8.9%		5.4%		4.1%			

Source: Federal Bureau of Statistics (students) and Ministries of Education. Note: (a) End of year.

Table F

Numbers of students and teachers 1967-1969 in fine arts and physical education

Year	I Students (a)		II Established full-time teachers						III Student/ teachers (I/II)
			Länder schools		Municipal schools		Total		
	Absolute figures	Indexes	Absolute figures	Indexes	Absolute figures	Indexes	Absolute figures	Indexes	
1967	8,977	100	833	100	320(b)	100	1,153(b)	100	7.8
1968	9,036	101	833	100	330(b)	103	1,161(b)	101	7.8
1969			842	101	340(b)	106	1,182(b)	103	

Source: Federal Bureau of Statistics and Ministries of Education.

Notes: (a) Middle of the year.
(b) Estimates.

3. Fine Arts and Physical Education

Table F shows the numbers of students and teachers in fine arts and physical education.(1)

In brief the trend in technical education is satisfactory from the strictly quantitative standpoint as regards non-university institutions of higher education. In teacher-training, however, the number of teachers (exclusively full-time as no survey could be made of the others) has increased more slowly than the number of students. In fine arts and physical education no trend was discerned as the period reviewed was particularly short. But the ratio of students to established staff only was sufficiently low for the quantitative situation to be considered favourable.

III. Composition of the teaching body in higher education

1. Increasing numerical importance of assistant lecturers in higher education

The tendency to assign an increasing number of teaching hours to assistant lecturers has emerged in several countries, and Germany is no exception. The assistants are a potential reserve of future senior or middle level staff. Indeed, they are increasingly called upon to fill vacant posts and even to occupy newly created chairs. Both absolutely and relatively their importance in the university as a whole is rapidly increasing. Moreover, certain bodies such as the "Deutsche Forschung-Gemeinschaft" grant fellowships to young research staff and finance periods of residence for foreign teachers in Germany for periods of three months or more.

2. The part played by teachers coming from secondary schools

A further reservoir of university staff is constituted by secondary school teachers who are preparing for their Habilitation or engaged in independent high-level research. However, their numbers are still low.

3. The part played by women teachers in higher education

Very few women obtain university teaching posts or sit for the Habilitation examination. According to the sources consulted, the preparation for the Doctorate of the Habilitation calls for several years of intensive work and is not very compatible with possible family responsibilities.

According to UNESCO(2), there were 15,915 teachers at universities and institutions awarding equivalent diplomas in 1960-61. These teachers included 942 women. The percentage of women teachers was therefore 5.9 per cent.

In non-university institutions(3) there were 6,181 teachers including 711 women teachers or 11.5 per cent.

4. The part played by part-time teachers in higher education

According to UNESCO there were 1,872 part-time teachers in university institutions in 1960-61 or (in "physical" terms) 11.7 per cent of all teachers in this type of institution.

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(1) "Kunsthochschulen" and "Sporthochschule Köln".

(2) World Survey of Education, Volume IV, 1967.

(3) Restricted to teacher training colleges and similar establishments and to engineering and horticultural schools.

In non-university institutions the absolute figure was 2,211 part-time teachers, i.e. a percentage of 35.8 per cent (in "physical" terms).

IV. Conclusions

Although, in university education, the annual growth rate of teachers has been higher than that of students, the student/teacher ratios have all increased, except the ratio student/JL teacher, over the period reviewed (1952-1966). In fact, while the proportion of senior and middle level teachers has been falling, junior level teachers represented more than half the teaching staff in 1966. In non-university higher education, the trend recorded in technology seems more favourable than in teacher training, but the data available for this type of education cover a very short period only. Throughout higher education, women teachers are still poorly represented.

ANNEX I ANNEXE I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE

SL = Senior Level (a) Statut Supérieur = SS (a)
ML = Middle Level (a) Statut Moyen = SM (a)
JL = Junior Level (a) Statut Inférieur = SI (a)

COUNTRY : GERMANY
PAYS : ALLEMAGNE
TABLE : I
TABLEAU : I

Field of specialization / Branches — Year / Année	PURE SCIENCE SCIENCES PURES				ARCHITECTURE				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES				EDUCATION				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				OTHER AUTRES				TOTAL			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1952/53 (b)	486	788	776	2 052	59	49	76	184	254	339	528	1 121	404	943	1 997	3 344	126	155	199	480	750	455	270	1 475	27 (c)	31	39	97	205	170	98	473	179	248	150	577					2 760	244	4 501	11 505 (d)
1960/61 (b)	718	1 364	1 409	3 491	81	70	138	289	401	742	940	2 083	494	1 922	2 867	5 283	206	357	336	899	1 030	1 651	657	3 338	1	34 (e)	24	59	288	221	150	659	325	455	400	1 180	-	19	45	64	3 544	6 835	7 006	17 385
1966/67 (f)	980	(g) 2 004	2 997	5 981	109	(g) 150	284	543	501	(g) 803	1 837	3 141	361	(g) 2 929	4 598	7 888	241	(g) 509	697	1 447	1 309	1 583	1 582	4 474	(h) 2	(g) 63	19	84	373	(g) 119	479	972	(i) 463	(g) 352	1 045	1 860	(j) 23	(g) 95	46	164	4 665	(g) 8 307	13 584	26 554

Source : "Statistisches Bundesamt" Federal Republic of Germany
Notes : (a) 1952/53 : SL = Ordentliche Professoren, Planmässige ausserordentliche Professoren, Emeriti mit Lehrtätigkeit, Honorar Professoren ; ML = Beamtete Ausserplanmässige Prof., Sonstige beamtete Nichtordinarien, Nichtbeamtete Ausserplanmässige Prof., Beamtete Dozenten, Privat-Dozenten, Habilitierte Lehrbeauftragte und Lektoren, Gast-Prof. und Dozenten, Nichthabilitierte Lehrbeauftragte und Lehrpersonen. JL = Wissenschaftliches Hilfpersonal (Assistenten); 1960/61 and 1966/67 : SL = Ordentliche Prof., Ausserordentliche Prof., Honorar Prof. ML = Ausserplanmässige Prof., Dozenten, Nichthabilitierte Beamte (Angestellte des Wissenschaftlichen Dienstes), Nichthabilitierte Oberassistenten - Arzte - Ingenieure, Gast-Prof. und Dozenten, Lehrbeauftragte. JL = Nichthabilitierte Wissenschaftliches Assistenten.

(b) 1952/53 : Berlin not included. Total figures for Berlin : SL = 270 ; ML = 366 ; JL = 366; Total 1,002. 1960/61 : Berlin included.

(c) Pedagogy and Physical Education.

(d) Total Berlin not included : SL = 2,490 ; ML = 3,178 ; JL = 4,135 ; Total : 9,803.

(e) Include only teachers which are lecturing to Commercial School Teachers. Physical Education and Pedagogy are included in Humanities.

(f) The data relate to teachers and other academic staff in universities (excluding philosophical/theological and religious denominational colleges in Hesse) in the Federal territory including Berlin (West).
It was also ascertained that there were during the same period 732 professors in ordinary, senior lecturers and professors by title, 561 lecturers (established and non-established) and 646 other teachers and members of the academic staff in the teachers training colleges in Federal territory including Berlin (West).

(g) Excluding lecturerships not included in the survey of individuals.

(h) Solely physical training specialists.

(i) Excluding the special subjects of ethnology and folklore, which are included in the Humanities, but including the special subjects of librarianship and documentation, which at present are not separately dealt with here.

(j) Including "special subject unspecified".

Source : "Statistisches Bundesamt" République fédérale d'Allemagne
Notes : (a) 1953/53 : SS = Ordentliche Professoren, Planmässige ausserordentliche Professoren, Emeriti mit Lehrtatigkeit, Honorar Professoren ; SM = Beamtete Ausserplanmässige Prof., Sonstige beamtete Nichtordinarien, Nichtbeamtete Ausserplanmässige Prof., Beamtete Dozenten, Privat-Dozenten, Habilitierte Lehrbeauftragte und Lektoren Gast-Prof. und Dozenten, Nichthabilitierte Lehrbeauftragte und Lehrpersonen. SI = Wissenschaftliches Hilfpersonal (Assistenten).
1960/61 et 1966/67 : SS = Ordentliche Prof., Ausserordentliche Prof., Honorar Prof.
SM = Ausserplanmässige Prof., Dozenten, Nichthabilitierte Beamte (Angestellte des Wissenschaftlichen Dienstes), Nichthabilitierte Oberassistenten - Arzte - Ingenieure, Gast-Prof. und Dozenten, Lehrbeauftragte.
SI = Nichthabilitierte Wissenschaftliche Assistenten.

(b) 1952/53 : les chiffres pour Berlin sont exclus, les chiffres globaux pour Berlin sont : SS = 270; SM = 366; SI = 366 ; Total = 1.002. 1960/61 : Berlin compris.

(c) Comprend la pédagogie et l'éducation physique.

(d) Total Berlin non compris: SS =2.490 ; SM = 3.178 ; SI = 4.135 ; Total = 9.803

(e) Ne comprend que les enseignants qui forment les futurs professeurs des écoles de commerce ;
les enseignants des écoles normales en pédagogie et en éducation physique sont inscrits en lettres.

(f) Les chiffres indiqués concernent les enseignants et autre personnel académique des universités de l'Allemagne fédérale - Berlin Ouest compris (à l'exception des collèges de philosophie, de théologie et des établissements confessionnels du Hesse).
Il a également été indiqué qu'en 1966 on comptait 732 professeurs ordinaires, professeurs extraordinaires et professeurs honoraires, 561 "Dozenten" (ayant ou n'ayant pas l'"Habilitation") et 646 autres enseignants et membres du personnel académique dans les écoles normales de l'Allemagne fédérale y compris Berlin Ouest.

(g) A l'exclusion des chargés de cours qui ne sont pas compris dans les questionnaires individuels.

(h) Ne concerne que les éducateurs physiques.

(i) A l'exclusion de l'ethnologie et du folklore qui sont compris en lettres ; mais y compris les enseignants qui s'adressent aux futurs bibliothécaires et documentalistes qui présentement sont confondus.

(j) Y compris les enseignements particuliers qui ne sont pas spécifiés.

COUNTRY : GERMANY
PAYS : ALLEMAGNE
TABLE : I bis(Indexes)
TABLEAU : I bis(Indices)

Field of specialization / Branches — Year / Année	PURE SCIENCE SCIENCES PURES				ARCHITECTURE				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES				EDUCATION				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				OTHER AUTRES				TOTAL (a)			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1952/53	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100					100	100	100	100
1960/61	148	173	181	170	137	143	181	157	158	219	178	185	122	203	144	158	163	230	169	187	137	149	243	153	4	110	62	61	140	130	153	148	182	183	267	206					128	161	156	151
1966/67	202	254	385	291	185	306	374	295	197	237	348	280	164	279	230	236	191	328	350	301	175	348	586	303	7	203	49	87	182	70	489	205	259	182	697	322					187	261	329	271

Source : Table I / Tableau I.

Note : (a) Berlin included.
(a) Y compris Berlin.

Table II

Student enrolments in university institutions
(in absolute figures & indexes)

	1952-53	1960-61	1966-67	1952-53	1960-61 Indexes	1966-67
Pure science	16,908	30,127	40,559	100	178	240
Architecture	3,775	4,982	5,622	100	132	149
Technology	19,086	34,648	32,937	100	182	173
Agriculture	4,279	4,383	5,294	100	102	124
Medical sciences	16,506	33,988	44,496	100	206	270
Humanities	21,843	49,038	64,487	100	230	295
Education	1,416	3,932	3,162	100	278	223
Fine arts	-	-	-	-	-	-
Law	12,135	18,802	24,999	100	155	206
Social sciences	17,012	25,454	44,543	100	150	262
Others	30	105	329	100	346	1,097
TOTAL (a)	112,990	205,459	266,428	100	182	236

Source: 1952 and 1960: Development of Higher Education, 1950-1967 - Statistical Survey, OECD, 1970 (Germany); from "Grosse Hochschulstatistik". These statistics have appeared annually since 1959-1960 in "Statistisches Bundesamt: Bevölkerung und Kultur, Reihe 10, V. Hochschulen". In previous years these statistics were given in "Statistische Berichte" No.VIII/4.

1966: Answers to "complementary questions".

Note: (a) Not including teacher students for "Grundschule" and "Hauptschule", for "Realschule" and for vocational schools (1966/67 = 15,048).

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS (WISSENSCHAFTLICHE HOCHSCHULEN)
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE (WISSENSCHAFTLICHE HOCHSCHULEN)

COUNTRY / PAYS : GERMANY / ALLEMAGNE
TABLE / TABLEAU : III(Percentages) / III(Pourcentages)

SL = Senior Level — Statut Supérieur = SS
ML = Middle Level — Statut Moyen = SM
JL = Junior Level — Statut Inférieur = SI

Field of specialization/Branches Year/Année	PURE SCIENCE SCIENCES PURES				ARCHITECTURE				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES				EDUCATION				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				OTHER AUTRES				TOTAL			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1952/53	23.7	38.4	37.9	100	32.1	26.6	41.3	100	22.7	30.2	47.1	100	12.1	28.2	59.7	100	26.3	32.3	41.4	100	34.5	53.1	12.4	100	27.8	32.0	40.2	100	43.4	35.9	20.7	100	31.0	43.0	26.0	100					23.7	36.9	39.4	100
1960/61	20.6	39.0	40.4	100	28.0	24.2	47.8	100	19.3	35.6	45.1	100	9.4	36.4	54.2	100	22.9	39.7	37.4	100	30.9	49.5	19.6	100	1.7	57.6	40.7	100	41.2	31.6	27.2	100	27.5	38.6	33.9	100					20.4	39.3	40.3	100
1966/67	16.4	33.5	50.1	100	20.1	27.6	52.3	100	15.9	25.6	58.5	100	8.4	33.3	58.3	100	16.6	35.2	48.2	100	29.2	35.4	35.4	100	2.4	75.0	22.6	100	38.5	12.2	49.3	100	24.9	18.9	56.2	100	14.0	57.9	28.1	100	17.6	31.3	51.1	100

Source : See Table I/Voir Tableau I.

AUSTRIA

I. Criteria for the recruitment and promotion of teaching staff in university type establishments

Austrian university teaching staff is made up of the following types of teachers:

(1) Full professors, whose main job is teaching.

(2) Honorary professors, who are given this title because they have done personal work of recognised value and are responsible for certain courses.

(3) Associate and assistant professors - the latter having received the "venia docendi" (right to give lectures) for the whole of a discipline or in some instances for only part of it.

(4) Lecturers.

(5) Guest professors or lecturers.

(6) Readers responsible for certain courses who have not yet received the "venia docendi".

(7) Assistant lecturers.

Full and associate professors are civil servants appointed by the Federal President. As a general rule, professors are responsible for the main subjects taught. However, secondary subjects are often entrusted to "contractual teachers". The full-time teaching schedule of professors is at least eight hours of lectures per week, but they often teach more.

Teachers retire at the age of seventy with the title of "Emeritus professor".

In answer to the "complementary questions", the Austrian education authorities pointed out that the statutory qualifications for recruitment as a junior level teacher are laid down in the Act of 11th July, 1962 relating to assistant lecturers in universities. Under this Act, assistant lecturers must have a university degree in the field of study in which they are to teach. In general, it should be a doctor's degree. Assistant lecturers can also be recruited "after satisfying the requirements for graduate staff of the Civil Service".(1) The responsible university authorities propose the appointment or renewal of contract of an assistant lecturer. The initial appointment is for two years, but may be renewed for four years, or for two further periods of two years. However, the services of an assistant lecturer cannot be retained for more than ten years in all unless he has meanwhile satisfied the requirements for becoming a lecturer, or unless his academic performance is such that his appointment as lecturer is only a question of time. If no candidate satisfies the requirements described above, a professor may engage an advanced-level student to help him. Such appointments are restricted to one year. They can be renewed for a period not exceeding four years in all.(2) Assistant lecturers can be recruited for part-time work. Part-time assistants must satisfy the same qualification requirements as full-time assistants.

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(1) Answers to "complementary questions".

(2) It should be noted that assistants of this type constitute a significant proportion of the teaching body. Answers to the "complementary questions" showed that in 1958/59 there were 927 student-assistants out of a total of 3,692 teachers, i.e. more than 25 per cent for all teachers. In 1966/67 they still accounted for 14 per cent. See in this connection table IV in annex I.

The appointment of full professors ("ordentliche Professoren") and assistant professors ("ausserordentliche Professoren") is part of the autonomous rights of the universities. Only persons who have done academic work of recognised value, or have published some of their research, are accepted as candidates for appointment.

II. Trend in numbers of teachers and students in university type higher education

The statistics available relate only to university teaching.

(1) Numbers and student/teacher ratios

Tables I and II in annex I give the numbers of teachers and students for the years 1953 and 1966. Table A below gives the student/teacher ratios based on these figures.

Table A

Student teacher ratios in 1953 and 1966

Field of study		S/SL	S/ML	S/JL	S/SL+ML	S/Total
Pure science	1953	21.6	8.1	13.3	5.9	4.1
	1966	46.7	25.6	9.8	16.6	6.2
Architecture	1953	44.9	18.1	35.2	10.8	9.4
	1966	111.8	68.1	29.1	42.3	17.2
Technology	1953	41.9	21.0	40.9	14.0	10.4
	1966	74.5	50.4	17.6	30.0	11.1
Medical sciences	1953	33.1	8.9	8.6	7.0	3.9
	1966	111.7	23.5	9.7	19.4	6.5
Agriculture	1953	25.9	9.3	20.6	6.9	5.1
	1966	40.7	15.6	13.0	11.3	6.1
Humanities	1953	19.4	6.9	25.6	5.1	4.2
	1966	55.0	15.7	21.4	12.2	7.8
Fine arts	1953	60.0	5.5	80.0	5.1	4.7
	1966	23.0	2.7	252.7	2.4	2.4
Law	1953	72.7	33.7	236.2	23.0	21.0
	1966	109.4	96.4	58.7	51.9	27.4
Social sciences	1953	113.9	21.2	185.1	17.8	16.3
	1966	106.5	54.8	53.2	36.2	21.5
Total	1953	35.9	10.9	27.4	8.3	6.4
	1966	69.5	20.5	19.6	15.8	8.8

Table A shows how the average number of students per teacher has increased, and how this has led to an increase in the overall ratios of students to all teachers. This trend applies to all fields of study except the fine arts. The same trends are observed for the ratios S/SL + ML.

(2) Annual growth rates in university numbers between 1953 and 1966

These rates are summarised in table B below. They are based on the figures in tables I and II in annex I received in answer to the "complementary questions".

Table B

Annual average growth rates in numbers between 1953 and 1966

(in percentages)

Field of study	Teachers				Students
	SL	ML	JL	Total	
Pure science	4.0	1.0	13.0	6.9	10.4
Architecture	2.3	-1.0	11.4	4.8	9.7
Technology	4.3	1.9	16.3	8.5	9.0
Medical sciences	1.4	3.3	10.4	7.0	11.3
Agriculture	2.2	1.7	9.6	4.5	5.8
Humanities	3.4	5.2	13.7	9.9	12.1
Fine arts	9.4	7.3	-7.3	7.1	1.6
Law	5.0	0.0	20.5	6.2	8.4
Social sciences	8.1	0.0	18.4	5.3	7.6
Total	4.0	4.2	12.2	6.8	9.4

(3) Structural changes in the teaching staff

As a result of differences in the annual average growth rates in the numbers of the various levels of teachers, the proportion of each of these types of teachers changed as follows:

Table C

Structural changes in the teaching staff
(as percentage of total staff)

Field of study	1953/54			1966/67		
	SL	ML	JL	SL	ML	JL
Pure science	18.9	50.3	30.8	13.1	24.0	62.9
Architecture	21.0	52.2	26.8	15.4	25.3	59.3
Technology	24.8	49.7	25.5	14.9	22.0	63.1
Medical sciences	11.7	43.6	44.7	5.8	27.5	66.7
Agriculture	19.9	55.1	25.0	14.8	38.8	46.4
Humanities	21.9	61.6	16.5	14.1	49.5	36.4
Fine arts	7.9	86.2	5.9	10.5	88.6	0.9
Law	28.9	62.2	8.9	25.0	28.4	46.6
Social sciences	14.3	76.9	8.8	20.2	39.3	40.5
Total	17.8	58.9	23.3	12.6	42.7	44.7

It can be seen that there has been a large increase in the proportion of assistant lecturers both in the total and in each field of study except the fine arts.

III. Composition of university teaching staff

The answers to the "complementary questions" indicated that no detailed study has been made of the shortage of teachers in the universities (Hochschüle). In this connection, it was noted in the course of the country survey carried out by the OECD in autumn 1968 that:

(a) there are no serious shortages of teachers in the universities;

(b) difficulties in finding suitable staff seem to have emerged recently in mathematics and the natural sciences.

No data were available on part-time teachers or on overloaded teaching schedules. However, the proportion of women teachers is shown in table D below, provided by the responsible authorities.

From official sources it was also pointed out that in 1954-1955, women teachers constituted 4 per cent of senior and middle level teachers, and about 13 per cent of junior level teachers. Taking all women teachers in all universities in 1966-1967, we obtain a total of 447, of which 17 higher level, 216 middle level and 214 junior level. Women teachers therefore accounted in that year for 8 per cent of university teachers as a whole, 2.4 per cent of higher level teachers, 9.1 per cent of middle level teachers, and 8.6 per cent of junior level teachers.

IV. Conclusions

The foregoing brief analysis shows that there has been a very large increase in student numbers compared with those of teachers. Except for the fine arts, senior or middle level staffs have always increased much more slowly than students. On the other hand, however, the growth rate in numbers of assistant lecturers has sometimes exceeded that of students. This applies to all fields of study taken together and to pure science, architecture, technology, agriculture, the humanities, law and the social sciences. This faster growth rate in total numbers of assistant lecturers compared with those of students has not prevented a quantitative deterioration in overall student/teacher ratios, on average and for all fields of study except the fine arts.

Table D

Women teachers by field of study and by level

(Numbers and percentages)

	Pure Science			Architecture			Technology			Medical Sciences			Agriculture			Humanities			Fine Arts			Law			Social Sciences		
	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL
1962-1963 Numbers	-	1	8	-	-	6	-	4	2	1	5	106	1	4	4	7	73	72	7	123	2	1	4	11	-	2	3
Percentage	-	1	6	-	-	6	-	4	1	1	2	18	2	5	4	3	11	18	14	30	33	2	5	17	-	4	9
1963-64 Numbers	-	1	9	-	1	3	-	3	2	1	4	110	1	4	4	7	86	76	6	139	2	1	3	12	-	2	4
Percentage	-	1	6	-	1	3	-	3	1	1	1	20	2	4	4	3	13	19	11	26	25	2	4	18	-	3	11
1964-65 Numbers	-	1	12	-	1	2	-	3	1	1	6	117	1	4	10	6	85	96	7	176	1	2	2	14	-	2	7
Percentage	-	1	7	-	1	2	-	3	0.5	1	2	17	2	4	10	3	13	20	11	29	12	3	2	17	-	3	17
1965-66 Numbers	-	1	11	-	2	9	-	3	1	1	6	115	1	5	12	8	75	130	7	188	1	2	2	16	-	2	8
Percentage	-	1	6	-	3	6	-	3	0.5	1	2	15	2	5	11	4	9	19	10	30	14	3	3	14	-	3	16
1966-67 Numbers	-	1	11	-	2	9	-	3	1	1	7	161	1	6	12	9	115	120	7	190	1	2	1	19	-	3	15
Percentage	-	1	5	-	3	6	-	3	0.5	1	2	19	2	5	9	4	13	19	9	29	14	2	1	14	-	3	21

Source : Answer to "Complementary Questions".

ANNEX I — ANNEXE I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS (a)
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE (a)

COUNTRY / PAYS : AUSTRIA / AUTRICHE
TABLE / TABLEAU : I

SL = Senior Level — Statut Supérieur = SS
ML = Middle Level — Statut Moyen = SM
JL = Junior Level — Statut Inférieur = SI

Field of specialization / Branches (b) — Year / Année	PURE SCIENCE / SCIENCES PURES				ARCHITECTURE (c)				TECHNOLOGY / TECHNOLOGIE				MEDICAL SCIENCE / SCIENCES MEDICALES				AGRICULTURE				HUMANITIES / LETTRES				FINE ARTS / BEAUX ARTS				LAW / DROIT				SOCIAL SCIENCES / SCIENCES SOCIALES				TOTAL			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1953/54	27	72	44	143	29	72	37	138	40	80	41	161	62	231	237	530	31	86	39	156	160	450	121	731	24	261	18	303	39	84	12	135	13	70	8	91	425	1 406	557	2 388
1954/55 (d)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	286	-	313	-	-	-	-	-	-	-	-	439	1 490	1 143	3 072
1955/56 (e)	-	-	-	-	-	-	-	-	117	243	339	699	85	211	506	802	47	73	76	196	255	451	225	931	28	298	8	334	60	62	35	157	25	67	22	114	617	1 405	1 211	3 233
1956/57 (e)	-	-	-	-	-	-	-	-	119	251	334	704	-	-	-	-	46	85	81	212	376	856	911	2 143	37	300	5	342	-	-	-	-	24	68	24	116	602	1 560	1 355	3 517
1957/58 (e)	-	-	-	-	-	-	-	-	134	247	364	745	-	-	-	-	45	92	84	221	348	942	899	2 189	36	311	6	353	-	-	-	-	18	76	22	116	581	1 668	1 375	3 624
1958/59 (f)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	322	6	366	-	-	-	-	-	-	-	-	559	1 666	1 467	3 692
1959/60 (e)	-	-	-	-	-	-	-	-	122	252	393	767	-	-	-	-	35	86	83	204	318	899	983	2 200	38	349	7	394	-	-	-	-	17	73	20	110	530	1 659	1 486	3 675
1960/61 (e)	-	-	-	-	-	-	-	-	112	259	376	747	-	-	-	-	36	88	83	207	328	882	1 004	2 214	42	364	7	413	-	-	-	-	16	82	22	120	534	1 675	1 492	3 701
1961/62 (e)	-	-	-	-	-	-	-	-	119	251	423	793	-	-	-	-	37	91	80	208	314	1 014	1 041	2 369	42	386	6	434	-	-	-	-	15	65	22	102	527	1 807	1 572	3 906
1962/63	37	87	142	266	40	72	106	218	54	94	207	355	70	320	601	991	41	86	91	218	219	637	1 300	2 156	49	417	6	472	54	84	64	202	21	55	33	109	585	1 849	1 653	4 087
1963/64	37	83	157	277	34	75	120	229	56	98	230	384	67	316	549	932	41	102	93	236	204	666	415	1 285	55	524	8	587	51	79	65	195	22	59	33	114	567	1 992	1 670	4 229
1964/65	39	83	184	306	37	83	135	255	63	97	243	403	74	329	684	1 087	41	106	98	245	214	686	461	1 361	64	590	8	662	60	84	83	227	23	55	41	119	615	2 113	1 937	4 665
1965/66	45	82	198	325	38	71	147	256	61	102	278	441	71	335	773	1 179	42	108	110	260	235	786	669	1 600	72	626	7	705	61	73	113	247	20	70	50	140	645	2 253	2 345	5 243
1966/67	45	82	215	342	39	64	150	253	69	102	292	463	74	352	853	1 279	41	107	128	276	249	871	640	1 760	77	652	7	736	74	84	138	296	36	70	72	178	704	2 384	2 495	5 583

Source : Ministry of Education - Department for Higher Education (III/S)

Notes :
(a) This table includes full time and part time teachers. There are no special figures for part time teachers (who are "Lehrbeauftragte).

(b) I - Breakdown by status : from 1953 to 1961 and for all universities (without Fine Arts) teachers have been distinguished as follows : SL = ordinary, extraordinary and retired ("emeritierte") teachers (ordentliche, ausserordentliche und emeritierte Hochschulprofessoren) ; ML = readers, lecturers, guest professors and others of equivalent statut (Hochschuldozenten, Hochschullektoren, Gastprofessoren, Gastdozenten und Gastvortragende, Lehrbeauftragte, "Instruktoren" und sonstige Lehrpersonen ; JL = Assistants and others of equivalent status (Hochschulassistenten, wissenschaftliche Hilfskräfte und klinische Hilfsärzte) ;
For the same period and for the Kunsthochschulen and Kunstakademien (Fine Arts) : SL = same as above ; ML : Honorary professors, lecturers, readers and some teachers of secondary education level (Honorarprofessoren, Lektoren, Lehrbeauftragte und pragmatische bzw. vertragsmässig angestellte Bundeslehrer) JL = Assistants (Hochschulassistenten).
For 1962-63, the classification stays unchanged for the "wissenschaftlichen Hochschulen"(Universities). However, JL includes "Bundeslehrer an Hochschulen"(secondary level teachers). For Kunsthochschulen and Kunstakademien (Fine Arts) the classification has remained the same.
II - Institutions included : From 1953-54 onwards, the schools included in this study are as follows : University of Wien, Graz and Innsbruck. Humanities : Evangelic faculty of Wien, Katholisch-theologische Fakultät of Salsburg ; Technology : Technische Hochschule Wien, Technische Hochschule Graz, Montanistisch Hochschule ; Agriculture : Hochschule für Bodenkultur, Tierärztliche Hochschule ; Social sciences : Hochschule für Welthandel ; Fine Arts : Akademie der bildenden Künste, Akademie für angewandte Kunst, für Musik und darstellende Kunst, für Musik und darstellende Kunst "Mozarteum".
For 1962-63 and very likely for the following years, the schools considered are as follows : Universities 1) Wien : Katholisch-theologische Fakultät (Humanities), Rechts-und staatswissenschaftliche Fakultät (Law), Medizinische Fakultät (Medicine), Philosophische Fakultät (Humanities). For the universities of Graz and Innsbruck, same as for Wien. For Salzburg : Katholisch-theologische Fakultät (Humanities), Philisophisches Institut (Humanities).
High School of Technology : Wien : Naturwissenschaften (Pure Sciences); Bauingenieurwesen und Architektur (Architecture), Maschinenwesen und Elektrotechnik (Technology); Atominstitut (Pure Sciences). Graz : Bauingenieurwesen und Architektur (Architecture) ; Maschinenwesen und Elektrotechnik (Technology); Naturwissenschaften (Pure Sciences); Montanistische Hochschule (Technology) ; Hochschule für Bodenkultur (Agriculture) ; Hochschule für Welthandel (Social Sciences) ; Tierärstliche Hochschule (Agriculture).
To the institutions mentionned above were added : The High School for Social Sciences and Economics (Linz) in 1966/67 and the Academy for Music and Fine Arts (Akademie für Musik und darstellende Kunst) (Graz) from 1963/64 onwards.

(c) For teachers as for students, "Architecture" includes teachers in "Structural Engineering Schools" where drawing in a part of the subjects to be taught.

(d) For the university year 1954-55 there is no breakdown of teachers by field of specialisation ; therefore only column "total" was filled.

(e) For the following academic years : 1955/56, 56/57, 57/58, 59/60, 60/61, 61/62, no accurate figures could be given for "Pure Sciences, Architecture, Medical Science and Law". Technology includes figures for Pure Science and Architecture. Medical Science and Law are included with Humanities.

(f) Only Fine Arts teachers could be distinguished from Total.

Source : Ministère de l'Education - Département de l'Enseignement Supérieur. (III/S)

Notes :
(a) Ce tableau comprend les professeurs à plein temps et à temps partiel. Il n'existe pas de données statistiques sur les professeurs employés à temps partiel "Lehrbeauftragte".

(b) I - Distinction des enseignants par statut : de 1953 à 1961 et pour toutes les universités (à l'exception des Beaux-Arts), les enseignants ont été distingués comme suit : SS = professeurs ordinaires, extraordinaires et émérites (ordentliche, ausserordentliche und emeritierte Hochschulprofessoren) ; SM = docent, maîtres de conférences, professeurs invités et autres enseignants invités et personnel de niveau équivalent (Hochschuldozenten, Hochschullektoren, Gastprofessoren, Gastdozenten und Gastvortragende, Lehrbeauftragte, "Instruktoren" und sonstige Lehrpersonen) ; SI = Assistants, aides de recherche et aides médicaux (Hochschulassistenten, wissenschaftliche Hilfskräfte und klinische Hilfsärzte) ;
Pour la même période et pour les Beaux-arts : SS = voir SS ci-dessus ; SM : professeurs honoraires, maîtres de conférence, chargés de cours et quelques professeurs du secondaire rattachés à l'enseignement supérieur (Honorarprofessoren, Lektoren, Lehrbeauftragte und pragmatische bzw vertragsmässig angestellte Bundeslehrer) ; SI = Assistants (Hochschulassistenten).
Pour 1962-63, la classification demeure identique pour les universités. Cependant le SI comprend aussi des enseignants du secondaire rattachés aux universités (Bundeslehrer an Hochschulen). Pour les Kunsthochschulen et les Kunstakademien (Beaux-Arts) la classification demeure inchangée.
II - Ecoles comprises dans les statistiques : Dès 1953-54 : Universités de Vienne, Graz et Innsbruck. Lettres : Faculté catholique de théologie de Salzbourg, Faculté de théologie évangélique de Vienne ; Technologie : Ecole technique de Vienne, Ecole technique de Graz, Montanistische Hochschule ; Agriculture : Ecole supérieure d'agriculture, Ecole supérieure vétérinaire ; Sciences sociales : Ecole supérieure de commerce ; Beaux-Arts : Akademie der bildenden Künste, Akademie für angewandte Kunst, für Musik und darstellende Kunst, für Musik und darstellende Kunst "Mozarteum".
Pour l'année 1962-63 et vraisemblablement pour les suivantes, les établissements pris en considération sont indiqués ci-après : Universités : Vienne, Graz, Innsbruck : Faculté de théologie catholique (Lettres) Droit et Affaires publiques (Droit), Faculté de médecine, Faculté de philosophie (Lettres) ; Université de Salzbourg: Faculté de théologie catholique (Lettres), Institut de philosophie (Lettres). Ecoles de technologie : Vienne : Naturwissenschaften (Sciences pures) ; Bauingenieurwesen und Architektur (Architecture), Maschinenwesen und Elektrotechnik (Technologie) ; Atominstitut (Sciences pures). Graz : Bauingenieurwesen und Architektur (Architecture) ; Maschinenwesen und Elektrotechnik (Technologie) ; Naturwissenschaften (Sciences pures) ; Montanistische Hochschule (Technologie) ; Hochschule für Bodenkultur (Agriculture) ; Hochschule für Welthandel (Sciences Sociales) ; Tierärstliche Hochschule (Agriculture).
En outre, le nombre d'écoles ci-dessus a été complété par : la Haute école de sciences sociales et économiques de Linz (depuis 1966/67) et l'Académie de musique et des beaux-arts (Akademie für Musik und darstellende Kunst) de Graz (depuis 1963/64).

(c) On notera que pour les enseignants comme pour les étudiants la rubrique "Architecture" comprend également certaines branches techniques où le dessin intervient tels les services de "construction".

(d) Pour l'année scolaire 1954-55, il n'y a pas eu de répartition du personnel enseignant d'après les facultés dans les Hautes écoles scientifiques, pour cette raison, seule la colonne "total" a été remplie.

(e) Pour les années scolaires 55-56, 56-57, 57-58, 59-60, 60-61, 61-62, on a dû faire une simplification par manque de données exactes pour les colonnes Sciences pures, Architecture, Sciences médicales et Droit. Les Sciences pures et l'Architecture ont été ajoutées à la Technologie. Les Sciences médicales et le Droit ont été ajoutés aux Lettres.

(f) Seuls les enseignants des beaux-arts ont pu être distingués du total.

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS (a)
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE (a)

COUNTRY AUSTRIA
PAYS AUTRICHE
TABLE I bis(Indexes)
TABLEAU I bis(Indices)

SL = Senior Level
ML = Middle Level
JL = Junior Level

Statut Supérieur = SS
Statut Moyen = SM
Statut Inférieur = SI

Field of specialization / Branches	PURE SCIENCE SCIENCES PURES				ARCHITECTURE				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES				FINE ARTS BEAUX ARTS				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				TOTAL			
Year / Année	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1953/54	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1954/55																												103									103	106	205	129
1955/56												434				151				126				127				110				116				125	145	100	217	185
1956/57												437								136				293				113								127	142	111	243	147
1957/58												463								147				299				117								127	137	119	247	152
1958/59																												121									132	118	263	155
1959/60												476								131				301				130								121	125	118	267	154
1960/61												464								133				303				136								132	126	119	268	155
1961/62												493								133				325				143								113	124	129	282	164
1962/63				186				158				225				187				140				295				156				150				120	138	132	297	171
1963/64				194				166				239				176				151				176				194				144				125	133	142	300	178
1964/65				214				185				250				206				157				186				218				178				131	149	156	358	195
1965/66				227				186				274				222				167				231				233				183				154	152	160	421	220
1966/67	167	114	409	239	134	89	405	183	173	128	712	288	119	152	360	241	132	124	328	177	156	134	529	241	320	250	39	243	190	100	150	219	277	100	900	196	166	170	448	234

Source and notes : see Table I.
Source et notes : voir Tableau I.

Note : (a) The indexes on this Table have been calculated on the basis of Table I, therefore not all the columns could be completed.
(a) Les indices de ce Tableau ayant été calculés sur la base du Tableau I, toutes les colonnes n'ont pu être remplies.

Table II

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS (a)

(Absolute figures and indexes)

Field of specialisation / Year	PURE SCIENCE		ARCHITECTURE (b)		TECHNOLOGY		MEDICAL SCIENCES		AGRICULTURE		HUMANITIES		FINE ARTS		LAW		SOCIAL SCIENCES		TOTAL	
	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND
1953/54	584	100	1,302	100	1,678	100	2,050	100	803	100	3,102	100	1,440	100	2,834	100	1,481	100	15,274	100
1954/55	730	125	1,504	116	2,157	129	2,471	121	788	98	4,078	131	1,147	80	3,300	116	1,777	120	17,952	118
1955/56	748	128	1,589	122	2,382	142	2,881	141	751	94	4,384	141	1,236	86	3,307	117	1,855	125	19,133	125
1956/57	806	138	1,617	124	2,910	173	3,166	154	766	95	4,869	157	1,348	94	3,480	123	1,901	128	20,863	137
1957/58	931	159	1,875	144	3,449	206	3,805	186	901	112	5,963	192	1,691	117	4,109	145	2,358	159	25,082	164
1958/59	1,184	203	2,264	174	4,173	249	4,431	216	965	120	7,364	237	1,904	132	4,859	171	2,647	179	29,791	195
1959/60	1,295	222	2,739	210	4,895	292	5,141	251	1,082	135	8,479	273	1,372	95	5,509	194	2,842	192	33,354	218
1960/61	1,634	280	3,522	271	5,611	334	5,944	290	1,226	153	9,642	311	1,341	93	6,318	223	3,295	222	38,533	252
1961/62	1,823	312	4,083	314	5,933	354	6,638	324	1,352	168	10,752	347	1,391	97	7,168	253	3,505	237	42,645	279
1962/63	1,821	312	4,433	340	5,803	346	7,297	356	1,527	190	11,806	381	1,408	98	7,680	271	3,887	262	45,662	299
1963/64	1,894	324	4,394	337	5,616	337	7,409	361	1,587	198	12 396	400	1,644	114	7,884	278	4,473	302	47,297	310
1964/65	1,979	339	4,430	340	5,333	318	7,734	380	1,594	199	12,915	416	1 818	126	7,989	282	4,304	291	48,096	315
1965/66	2,066	354	4,299	330	5,271	314	7,961	388	1,696	211	13,418	433	[illegible]887	131	8,133	287	4,164	281	48,895	320
1966/67	2,104	360	4,359	335	5,138	306	8,266	403	1,671	208	13,708	442	1,769	123	8,097	286	3,833	259	48,945	320

Sources : See Table I.

Notes: (a) This Table includes also foreign students.
The same institutions and the same breakdowns by field of specialisation have been used for students and for teachers. For details concerning those institutions and field of specialisation, see notes (b) (c) and (f) on Table I.

(b) The Ministry of Education, Department for Higher Education has provided a breakdown for students in "Architecture" shown in Table III. In order to facilitate comparison between student and teacher figures, the students enrolled under Structural Engineering have been kept under Architecture.

Table III

Student enrolments - breakdown of the column "architecture" in table II into the two courses of study

Year	Architecture	Structural engineering	Total "Architecture" table II
1953/54	396	906	1,302
1954/55	483	1,021	1,504
1955/56	507	1,082	1,589
1956/57	589	1,028	1,617
1957/58	735	1,140	1,875
1958/59	972	1,292	2,264
1959/60	1,120	1,619	2,739
1960/61	1,590	1,932	3,522
1961/62	1,880	2,203	4,083
1962/63	2,101	2,332	4,433
1963/64	2,056	2,338	4,394
1964/65	2,146	2,284	4,430
1965/66	2,130	2,169	4,299
1966/67	2,157	2,202	4,359

Source: Ministry of Education - Department for Higher Education.

Table IV

Percentages of undergraduate scientific assistants (unqualified university staff) in higher education

Year	Teaching staff in higher education	of whom scientific assistants	% Assistant/All teaching staff
1953/54	3,042	654	21.5
1954/55	3,072	681	22.1
1955/56	3,233	812	25.1
1956/57	3,517	825	23.5
1957/58	3,624	865	23.9
1958/59	3,692	927	25.1
1959/60	3,675	912	24.8
1960/61	3,701	891	24.0
1961/62	3,906	910	23.3
1962/63	4,087	930	22.8
1963/64	4,229	459	10.9
1964/65	4,665	523	11.2
1965/66	5,243	679	12.9
1966/67	5,583	781	14.0

Source: Ministry of Education - Department for Higher Education. Answers to "complementary questions".

ANNEX II

Explanatory notes received from the Higher Education Department of the Austrian Ministry of Education

Sources of the differences between the tables submitted by the Austrian Ministry of Education in reply to the OECD Questionnaire (DAS/EID/69/4149) "Staff of higher education establishments by level and field of study; student numbers", and the document prepared by the OECD (1970) Development of Higher Education, 1950-1967. Statistical Survey - (Austria).

The notes used to explain the differences are taken from the latter document.

	OECD Questionnaire	Development of Higher Education, 1950-1967
Note 1	Students of "pure science" are excluded from "humanities".	Students of "pure science" are included in "humanities"
Note 2	"Architecture" covers students of "construction" and "architecture" in the technical universities: it does not cover students of "architecture" in the fine arts colleges.	The statistics cover only students of "architecture" in the technical universities and the fine arts colleges.
Note 4	Only students enrolled in the "Hochschule für Welthandel" are included in "social sciences". Students of political science and economics are included under law.	The statistics for the "social sciences" include students of the "Hochschule für Welthandel",and those enrolled for political science and economics attached to the faculties of law.

BELGIUM

I. Criteria for the recruitment and promotion of teaching staff

In Belgium, full professors holding chairs, and "chargés de cours", are defined in the Decree of 6th July, 1964. The former are described as "ordinary professors" if employed full-time, and as "extraordinary professors" if they practice a second occupation (which is not often the case). They constitute the senior level teaching staff.

Teachers without chairs are described as "chargés de cours". They are deemed to be full-time teachers if they lecture for at least five hours a week. After 6 years they can be promoted to the rank of professor if they work full-time. "Associate professors" belong to a category of relatively recent origin. These are members of the teaching profession who have the necessary qualifications for professorships or "chargés de cours" and are attached to a professorial chair. They act as assistants to the professor and are mainly employed on research and tutorial work with senior students. Many have previously worked as assistants or as chief assistants. They begin as associate "chargés de cours" and after 6 years are appointed as associate professors. Associate professorships appeal to many young research workers, and provide Belgium with a reserve of potential teachers. They attract young candidates who wish to specialise while at the same time receiving an adequate salary.

Three junior grades of teaching staff are defined in the Royal Decree of 2nd April, 1965.

1. Attachés or assistants (first level) are generally appointed on the proposal of the teacher who is to make use of their services. They must be licentiates or doctors of law, science, medicine or engineering. After four years, if they have completed their doctorate, they may be appointed chief assistants or established librarians.

2. After ten years' experience, a junior assistant may become chef de travaux or répétiteur (second level) provided that he holds a doctorate.

3. Agrégés de faculté and conservateurs agrégés must have 12 years of university teaching behind them after their appointment as "attaché" or "assistant". They must also have obtained the "agrégation" of higher education.

Generally speaking, promotion in the Belgian university hierarchy depends more on academic distinctions, published works and years of service than on teaching ability.

There is little or no inter-university mobility. Many of the teachers have themselves studied in the university where they lecture. Many have, however, completed their education abroad, and this tends to bring a current of "fresh air" into the universities.(1)

II. Trends in numbers of teachers and students in universities and equivalent institutions

1. Student/teacher ratios and numbers

In answering the "complementary questions", the Belgian authorities referred to various sources, which have been drawn on for the tables in annex.

Table I gives the numbers of full-time and part-time teachers, and the total numbers, from 1953 to 1966. Table II shows the corresponding numbers of students. Table III gives the only breakdown by field of study which could be made from the basic material recommended.

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(1) Source: "The Recruitment and Training of University Teachers", IAUPL.

The student/teacher ratios in the table below have been calculated from the figures in tables I and II in annex.

Table A

Student/teacher ratios for full-time and part-time teaching staff, by levels, in university-type higher education (in 1953 and 1966)

Year	Full-time					Part-time				
	S/SL	S/ML	S/JL	S/SL + ML	S/ Total	S/SL	S/ML	S/JL	S/SL + ML	S/ Total
1953	31.3	53.6	54.2	19.8	14.5	24.6	28.8	46.4	13.3	10.3
1966	41.4	48.5	23.4	22.3	11.4	30.4	25.4	19.2	13.8	8.0

2. Average annual growth rates of university numbers, 1953-1966

The following average annual growth rates have been calculated for the various categories of teachers, and for students, from the data contained in tables I and II in annex.

Table B

Average annual growth rates in numbers of teachers and students (1953-1966)

(in percentages)

	Teachers				Students
	SL	ML	JL	Total	
Full-time	3.9	7.0	13.2	8.1	
Part-time	6.3	7.4	15.6	8.5	
Total	4.5	7.2	13.6	8.2	6.2

3. Structural changes in the teaching staff

As a result of the trends noted above, structural changes have taken place which reflect the more than proportional increase in the numbers of junior level teachers, coinciding with a decline in the proportion at middle level, and still more at higher level.

Table C

Structural changes in the teaching staff in higher education, for full-time teachers, part-time teachers and total number of teachers, (1953-1966)

(as percentage of total staff)

No. of teachers	Full-time			Part-time			Total		
Year	SL	ML	JL	SL	ML	JL	SL	ML	JL
1953	46.3	27.0	26.7	31.1	57.8	11.1	41.9	35.8	22.3
1966	27.5	23.6	48.9	23.9	50.8	25.3	26.5	31.6	41.9

Source: Tables I and II in annex.

Table D

BREAKDOWN OF RESEARCH AND TEACHING STAFF BY GRADE, FACULTY, SEX AND FULL-TIME OR PART-TIME SERVICE (31st DECEMBER, 1966) (a)

UNIVERSITY DEPARTMENT			PHILOSOPHY AND HUMANITIES		PSYCHOLOGY AND PEDAGOGICS		TRANSLATION AND INTERPRETATION		LAW		SCIENCE		AGRONOMICS		MEDICINE AND PHARMACY		PHYSICAL EDUCATION		VETERINARY MEDICINE		APPLIED SCIENCES		MILITARY AND SOCIAL SCIENCES		POLITICAL AND SOCIAL SCIENCES		COMMERCIAL SCIENCES		THEOLOGY		INTERDISCIPLINARY CENTRES	
			M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Teaching Staff	Ordinary Professor	Full-time	129 (68)	2 (5)	–	14 (1)		–	59 (45)	– (1)	142 (46)	1 (5)	73	–	100 (44)	(1)	(2)	(1)	21		59 (14)				30 (9)		19		23			
		Part-time	16	–	1	–			13	–	12	–	6	–	22				–		9				17		9	1	2			
		TOTAL	145	2	1	14		–	72	–	154	1	79	–	122				21		68				47		28	1	25			
	Professor	Full-time	40 (22)	6 (1)	3 (1)	–	5	–	5 (22)	– (1)	42 (41)	– (3)	5	–	36 (21)	2	2				10 (23)	(2)			37 (13)		31	2	10		(4)	
		Part-time	6	–	1	–	–	–	1	–	6	–	1	–	8	–	–				3				52		6	7	14			
		TOTAL	46	6	4	–	5	–	6	–	48	–	6	–	44	2	2				13				89		37	9	24			
	Chargé de cours	Full-time	50 (27)	2 (9)	2 (5)	2	20	4	11 (23)	–	65 (45)	2 (6)	35	–	49 (54)	– (8)	17 (14)	1 (3)	6		46 (44)	(3)	3	–	15 (15)	(3)	37	1	3		(20)	(5)
		Part-time	44	2	24	3	32	7	44	1	37	3	44	1	88	3	–	–	–		37		5	–	61		157	–	8			
		TOTAL	94	4	26	5	52	11	55	1	102	5	79	1	137	3	17	1	6		83		8	–	76		194	1	11			
	Total teaching staff	Full-time	219 (117)	10 (15)	5 (6)	16 (1)	25	4	75 (90)	– (2)	249 (132)	3 (14)	113	–	185 (119)	2 (9)	19 (16)	1 (4)	27		115 (81)	(5)	3		82 (37)	(3)	87	3	36		(24)	(5)
		Part-time	66	2	26	3	32	7	58	1	55	3	51	1	118	3	–	–			49		5		130		172	8	24			
		TOTAL	285	12	31	19	57	11	133	1	304	6	164	1	303	5	19	1	27		164		8		212		259	11	60			
Research and other Staff	Agrégé	Full-time	11	1 (1)	–	–			1	–	3 (4)	(2)			4 (24)	(1)			1		3 (5)				2							
		Part-time	10		–	–			–	–	–				–				–		–				2							
		TOTAL	21	1	–	–			1	–	3				4				1		3				4							
	Chef de travaux	Full-time	33 (6)	8 (3)	2	1			8	4	89 (20)	12 (14)	35	1	97 (36)	27 (12)	2	(3)	10	1	110 (13)	2 (5)	11	–	5	1 (1)	6				(2)	(4)
		Part-time	–	–	–	–			–	–	1	–	–	–	1	–	–		–	–	2	–	–	–	1	–	–					
		TOTAL	33	8	2	1			8	4	90	12	35	1	98	27	2		10	1	112	2	11	–	6	1	6					
	Assistant	Full-time	176 (9)	63 (9)	38 (6)	19 (2)	12	8	56 (28)	26 (3)	396 (70)	89 (25)	89	5	282 (40)	59 (7)	12 (7)	2 (2)	26	3	273 (84)	5 (7)			74 (15)	10 (1)	45	10	1	1	1 (13)	
		Part-time	27	17	6	4	–	–	22	7	36	10	1	–	11	4	5	–	–	–	11	1			24	4	1	–	3	2	–	
		TOTAL	203	80	44	23	12	8	78	33	432	99	90	5	293	63	17	2	26	3	284	6			98	14	46	10	4	3	1	
	Total academic staff	Full-time	220 (15)	72 (13)	40 (6)	20 (2)	12	8	65 (28)	30 (3)	488 (94)	101 (41)	124	6	383 (100)	86 (20)	14 (7)	2 (5)	37	4	386 (102)	7 (12)	11		81 (15)	11 (2)	51	10	1	1	1 (15)	4
		Part-time	37	17	6	4			22	7	37	10	1	–	12	4	5	–	–	–	13	1	–		27	4	1	–	3	2	–	
		TOTAL	257	89	46	24	12	8	87	37	525	111	125	6	395	90	19	2	37	4	399	8	11		108	15	52	10	4	3	1	

Source : Answers to the "complementary questions" supplied by the CNPS . (Conseil national de la politique scientifique).

Note : (a) Excluding the Catholic University Faculty of Mons and the Protestant Faculty of Theology.
The figures between brackets refer to an estimate for the Free University of Brussels. The breakdown is based on the university syllabus.

III. Composition of the teaching staff in university higher education

Apart from the data given above, only a few figures were available concerning the proportion of women teachers. These additional data are set out in great detail in table D below for the year 1966.

Table D indicates a total of 474 women research workers and teachers, allocated as shown in table E.

It is impossible to say how the proportion of women teachers has changed over time.

It may further be noted that in 1953, part-time teachers represented 28.7 per cent of the total teaching staff, and in 1966, 29.6 per cent. In greater detail, in 1953 part-time teachers accounted for 21.3 per cent of the total number of senior level teaching staff, 46.2 per cent at middle level, and 14.3 per cent at junior level. In 1966, the figures were 26.7, 47.6 and 17.9 per cent respectively.

Table E

Proportion of women teachers in university-type higher education,[a] by status (full-time and part-time) in December, 1966

	Total number of teachers	Number of women teachers	Percentage of women in the whole teaching body
		Teaching staff	
Ordinary professors	780	18	2.3
Professors	341	17	5.0
"Chargé de cours"	972	32	3.3
Total	2,093	67	3.2
		Research and other staff	
"Agrégés"	38	1	2.6
"Chefs de travaux"	470	57	12.1
Assistants	1,977	349	17.7
Total	2,485	407	16.4

Note: (a) Excluding the establishments mentioned in footnote (a) of table D.

IV. Conclusions

The figures compiled for our study point to an increase in teaching staff, especially at junior level, which is more than proportional to the rise in student numbers. Only at senior level has the average annual growth rate failed to keep pace with the growth in student numbers.

ANNEX I ANNEXE I

FULL TIME AND PART TIME TEACHING STAFF BY STATUS IN UNIVERSITY INSTITUTIONS (a)
PERSONNEL ENSEIGNANT A PLEIN TEMPS ET A TEMPS PARTIEL, PAR STATUT, DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE (a)

Country : BELGIUM
Pays : BELGIQUE
Table : I - absolute figures & Indexes
Tableau : I - chiffres absolus & Indices

SL = Senior Level (b) Statut Supérieur = SS (b)
ML = Middle Level (b) Statut Moyen = SM (b)
JL = Junior Level (b) Statut Inférieur = SI (b)

ABSOLUTE FIGURES/CHIFFRES ABSOLUS

Status/ Statut — Years/ Années	Full time Plein temps				Part time Temps partiel				Total			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1953/54	673	393	389	1 455	182	338	65	585	855	731	454	2 040
1954/55	695	396	460	1 551	197	343	79	619	892	739	539	2 170
1955/56	706	415	492	1 613	201	355	85	641	907	770	577	2 254
1956/57	704	442	502	1 648	211	375	96	682	915	817	598	2 330
1957/58	721	472	572	1 765	227	391	112	730	948	863	684	2 495
1958/59	752	477	674	1 903	242	418	119	779	994	895	793	2 682
1959/60	756	516	808	2 080	246	429	153	828	1 002	945	961	2 908
1960/61	788	571	960	2 319	253	471	182	906	1 041	1 042	1 142	3 225
1961/62	823	671	1 058	2 552	275	521	199	995	1 098	1 192	1 257	3 547
1962/63	862	745	1 164	2 771	286	581	226	1 093	1 148	1 326	1 390	3 864
1963/64	901	860	1 297	3 058	328	639	261	1 228	1 229	1 499	1 558	4 286
1964/65	940	921	1 441	3 302	349	713	293	1 355	1 289	1 634	1 734	4 657
1965/66	1 066	913	1 710	3 689	376	796	366	1 538	1 442	1 709	2 076	5 227
1966/67	1 104	944	1 958	4 006	403	857	427	1 687	1 507	1 801	2 385	5 693

Source : "Rapport de la Commission spéciale", p.332 to 347 of annexes.
answers to "Complementary Questions".

Notes : (a) Include staff in the following institutions : State University of Ghent, Free University of Brussels, Catholic Universities of Louvain and Mons, State University of Liege, State University Centers in Antwerp and Mons, State Agriculture Faculties in Gembloux and Ghent, State Veterinary Faculty of Brussels (Cureghem), Royal Military School of Brussels. St Louis University of Brussels, "Notre Dame de la Paix" University of Namur, St-Ignatus Universities at Antwerp, Polytechnic School of Mons.

(b) SS = Professors. SM = "Chargés de cours", "Agrégés", "Chefs de Travaux". SI = Assistants. All "agrégés", "chefs de travaux" and assistants not give lectures.. The title "chefs de travaux" includes "les chefs de travaux", "les chefs de clinique", "les conservateurs et les bibliothécaires" ; the title "Assistant" includes Assistants, first Assistants, Assistants in charge of courses, Monitors and Associate Chiefs of Clinic. It has not been possible to separate teaching staff and no-teaching staff. Therefore our figures include an indeterminate number of not-teaching staff.

INDEXES/INDICES

Status/ Statut — Year/Année	Full time Plein temps				Part time Temps partiel				Total			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1953/54	100	100	100	100	100	100	100	100	100	100	100	100
1954/55	103	101	118	107	108	101	122	106	104	101	119	106
1955/56	105	106	126	111	110	105	131	110	106	105	127	110
1956/57	105	112	129	113	116	111	148	117	107	112	132	114
1957/58	107	120	147	121	125	116	172	125	111	118	151	122
1958/59	112	121	173	131	133	124	183	133	116	122	175	131
1959/60	112	131	208	143	135	127	235	142	117	129	212	143
1960/61	117	145	247	159	139	139	280	155	122	143	252	158
1961/62	122	171	272	175	151	154	306	170	128	163	277	174
1962/63	128	190	299	190	157	172	348	187	134	181	306	189
1963/64	134	219	333	210	180	189	402	210	144	205	343	210
1964/65	140	234	370	227	192	211	451	232	151	224	382	228
1965/66	158	232	440	254	207	236	563	263	169	234	457	256
1966/67	164	240	503	275	221	254	657	288	176	246	525	279

Source : "Rapport de la Commission spéciale", p.332 à 347 des annexes.
Réponses aux "Questions complémentaires".

Notes : (a) Comprend le personnel des établissements suivants : Université de l'Etat à Gand, Université libre de Bruxelles, Université catholique de Louvain, Université de l'Etat à Liège, Centre universitaire de l'Etat à Anvers, Centre universitaire de l'Etat à Mons, Faculté des Sciences agronomiques de l'Etat à Gembloux, Faculté agronomique de l'Etat à Gand, Faculté de Médecine vétérinaire de l'Etat à Bruxelles (Cureghem), Ecole royale militaire à Bruxelles, Faculté universitaire St-Louis à Bruxelles, Facultés universitaires Notre Dame de la Paix à Namur, Facultés universitaires St-Ignatus à Anvers, Faculté universitaire catholique de Mons, Faculté polytechnique de Mons.

(b) SS = Professeurs ordinaires et professeurs. SM = Chargés de cours, agrégés, chefs de travaux. SI = Assistants. Tous les agrégés, chefs de travaux et assistants ne sont pas chargés de cours. Le titre "Chef de travaux" regroupe les chefs de travaux, les chefs de clinique, les conservateurs et les bibliothécaires, celui "d'assistant," regroupe les assistants, les premiers assistants, les assistants chargés d'enseignement, les moniteurs et les chefs de clinique adjoints. Il ne nous a pas été possible de distinguer les non-enseignants des enseignants. Nos chiffres comprennent donc un nombre indéterminé de non-enseignants.

Table II

Student enrolments in university institutions[a]
(1953-1966)

Absolute figures & indexes

Year	Enrolments	Indexes
1953	21,067	100
1954	21,737	103
1955	22,462	107
1956	23,580	112
1957	24,742	117
1958	26,137	124
1959	27,276	129
1960	28,101	133
1961	29,615	141
1962	31,484	149
1963	33,074	157
1964	36,477	173
1965	40,261	191
1966	45,749	217

Source: Answers to "complementary questions"; Annexes to "Rapport de la Commission Spéciale", p.332 to 347.

Note: (a) These institutions are similar to those taken into account for the teachers; see note (a), table I.

Table III

Teaching staff by status and field of specialisation (full-time and part-time)
(31st December 1966) (a) (b)

Status / Field of specialisation	Full-time				Part-time				Total			
	SL	ML	JL	Total	SL	ML	JL	Total	SL	ML	JL	Total
Pure science	280	262	580	1,122	18	41	46	105	298	303	626	1,227
Architecture	-	-	-	-	-	-	-	-	-	-	-	-
Technology	108	231	369	708	12	39	12	63	120	270	381	771
Medical sciences	204	312	388	904	30	92	15	137	234	404	403	1,041
Agriculture	99	89	123	311	7	45	1	53	106	134	124	364
Humanities	311	178	279	768	38	103	49	190	349	281	328	958
Education	24	52	88	164	2	27	15	44	26	79	103	208
Fine arts	-	-	-	-	-	-	-	-	-	-	-	-
Law	133	47	113	293	14	45	29	88	147	92	142	381
Social sciences	141	86	155	382	92	221	29	342	233	307	184	724
Other	4	45	14	63	-	5	-	5	4	50	14	68
Total	1,304	1,302	2,109	4,715	213	618	196	1,027	1,517	1,920	2,305	5,742

Source: Answers to "complementary questions"; Annexes to "Rapport de la Commission Spéciale", p.332 to 347.

General remark: The basic document (table D in text) presents a more detailed breakdown of teaching and scientific university level staff than the one to be found in table I. Figures for Brussels University could not be broken down; they are given in parenthesis. Breakdown for this institution was made according to courses and therefore the figures do not correspond perfectly with those of table I in this annex.

Notes: (a) The Catholic Faculty of Mons and the Faculty of Protestant Theology are not included.
(b) See note (b) to table I.

CANADA

I. Criteria for the recruitment and promotion of teaching staff

University teachers in Canada are classified as follows: deans, professors, associate professors, assistant professors, lecturers and instructors; demonstrators, class and laboratory assistants and fellows.

The associate and assistant professors in any university department usually outnumber the full professors. Staff are often recruited as assistant professors or at a lower level.(1) Academic qualifications and published works usually count for more than teaching experience in the choice of staff. Promotion is not automatic, but after a probationary period, generally lasting three years, promotions occur every five years on average.

Teachers are usually allowed to practise a second paid occupation, within reasonable limits. It must not take up more than a certain proportion of their time, or yield more than a certain proportion of their income.

In the past, university teaching staff were largely recruited abroad. Especially after the Second World War, there was no difficulty in recruiting teachers from various universities in Europe and the United States. Recently, however, it has become increasingly difficult to induce foreign teachers with the required qualifications to emigrate to Canada. Furthermore, many Canadian students who have received a university education abroad subsequently fail to return to their native land.(2)

To remedy the shortage of teachers, a special degree, intermediate between the Master's degree and the Ph.D., was introduced by the University of Toronto: the Phil.M. This qualification carries two-thirds of the value of the Ph.D., and is sufficient to enter a university teaching career. In addition, the Canadian Universities Foundation has recommended a policy designed to encourage Canadian students who have completed their studies abroad to take up teaching in Canada.

Canadian institutions of higher education often offer studies for one or more years at post-secondary level. Junior colleges provide a type of education half-way between university and non-university type of education. Table II in annex shows that between 1954 and 1965 the number of full-time students in university education trebled, but that during the same period the number of part-time students and students at (non-university) technical colleges increased twice as fast again. Teacher training colleges have seen their numbers slowly decrease since 1964 to the advantage of the universities.

There are no major distinctions between state and private institutions. The latter are often heavily subsidised by the Government, and the school boards may consist of both private individuals and official representatives.

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(1) World Survey of Education, Vol.IV, UNESCO.

(2) For full information on these questions, reference should be made to L.H. Cragg, M.G. Ross and E.F. Sheffield: Canadians in U.S. Graduate Schools. A Rich Pool of Potential Canadian University Teachers and Research Workers. A Report to the Canadian Universities Foundation, April 1965; and Ernest Sirluck: The Crisis in Canadian Universities. A lecture delivered at the University of Manitoba, November, 1964, published in Varsity Graduate.

II. Trends in numbers of teachers and students in higher education

A. University education

1. Student/teacher ratios and numbers

Tables E and I and II in annex show the numbers of students and senior and middle level teachers on the one hand and the total number of teachers on the other. Generally, these tables cover a 10-14 year period. Table A, which contains a certain number of student/teacher ratios for the beginning and end of the period shows when analysed that it is the student/teacher ratio for middle level teachers which has improved during this time. For senior level staff the student/teacher ratio increased at first and then decreased again but did not reach the level it held at the beginning of the period. If part-time students are included, the ratio tends to increase (except for middle level teachers). As in the United States, the ratio for the total number of students/total number of teachers is slowly decreasing.

Table A

Trends in (full and part-time) student/full-time teacher ratios

	Full-time studs. SL	Total stu-dents SL	Full-time studs. ML	Total stu-dents ML	Full-time studs. SL+ML	Total stu-dents SL+ML	Full-time studs. Total teachers	Total stu-dents Total teachers
1956/57	66.6	77.6	28.3	33.0	19.9	23.1	11.2	13.1
1963/64	-	-	-	-	-	-	12.2	16.6
1965/66	88.7	120.5	22.0	30.0	17.7	24.0	-	-
1967/68	72.3	-	17.4	-	15.9	-	12.6	-

2. Average annual growth rates of university numbers

The period studied covers the years 1956 to 1967. No precise data could be obtained for assistants and other teachers of a corresponding level. Point (4) below simply gives an estimate of the part they played during the period.

The average annual growth rates are shown in table B below.

Table B

Average annual growth rates in numbers of university teachers and students

(in percentages)

Total number of teachers	Teachers			Full-time students
	SL	ML	Total SL+ML	
10.4	9.4	15.3	13.8	11.5

The results of table A have been confirmed. The numbers of senior level teachers and the total number of teachers have not increased as rapidly as the total number of students.

3. Breakdown by field of study supplied in answer to the complementary questions

A breakdown of this sort was available only for senior and middle level teachers. No directly comparable figures could be compiled for students. The data, such as they are, are given in tables IV and IV bis in annex.

It can be seen that the fastest growth was in the numbers of teachers of pure sciences, the humanities and education. Whereas the average annual growth rate in all the fields examined was 13.8 per cent, it was 14.7 per cent in pure sciences, 17.3 per cent in the humanities and 17.5 per cent in education. For agriculture, on the other hand, the average annual growth rate did not exceed 4.5 per cent, and for architecture 7.9 per cent (table III in annex).

4. Supplementary data on the other categories of teachers

The main available data on teachers relate to senior and middle level teachers. Nevertheless, by examining the data supplied on these (table I in annex) and those for the teaching staff as a whole (table E) it is possible to deduce the importance of the role played by subordinate staff (demonstrators, class and laboratory assistants, fellows, etc.). This category is rather like that for "junior instructional staff", which was met in the data on the United States. Between 1956/57 and 1967/68 the number of teachers in this group increased from 3,046 to 4,322 - clearly a smaller increase than that for the other categories of teachers. During the period considered their importance relative to the teaching body as a whole has fallen from 44 to 21 per cent.

B. Non-university education

As we have seen, there is no sharp distinction in Canada between universities and other higher educational institutions.

The following figures were, nevertheless, supplied in answer to the complementary questions. Table C shows the number of full-time staff in the institutes of technology. It has not been possible to show these with the numbers of students.

On the other hand it has been possible to follow the trends in numbers of full-time teachers (see table D) and trends in numbers of students (see table II in annex) in non-university level teacher training colleges between 1954/55 and 1965/66. It appears that during this period the student/full-time teacher ratio has doubled from 1/7.3 to 1/14.6 - a much higher ratio than that in university education. However, part-time teachers seem to play an important role, and we have unfortunately been unable to assess them on a full-time basis, to show the precise nature of the part they play.

Table C

Full-time teaching staff in non-university post-secondary institutions (a)

Year	Numbers in community colleges (b)	Indexes	Numbers in nursing schools	Indexes
1963/64	..	..	1,921	86
1964/65	1,694	100	2,222	100
1965/66	2,038	120	2,263	102
1966/67	2,442	144	2,408	108
1967/68	3,583 (c)	212	2,454	110
1968/69	3,400 (d)	201	2,498	112
Average annual growth rate 1964/68	19.0%	1963/68	3.0% : 5.4%)	

Source: Vocational Section and Higher Education Section, Dominion Bureau of Statistics, April 30, 1969.

Notes: (a) For technical institutes, UNESCO (World Survey of Education, Vol.IV) quotes the number of full-time teachers as being [illegible]30 in 1961 and 850 in 1960 teaching a smaller number of students than that given in table II in annex (11,206 and 9,443 respectively).

(b) "Community colleges" are deemed to include all non-university post-secondary establishments except non-State nursing schools. Except for a few technical institutes, most Community colleges have been recently developed.

(c) Excluded from these figures are seven colleges of general and vocational education and two institutes.

(d) Excluding figures for the Province of Quebec, which are not yet available.

III. Composition of the teaching staff in higher education

1. Proportion of women teachers in higher education

In non-university teacher training colleges the proportion of women teachers (part-time as well as full-time) has fallen fairly steadily since the beginning of the period when they played an important part.

The percentage of full-time women teachers in proportion to the total full-time teaching staff has fallen from about 60 per cent around 1960 to 39 per cent in 1968. The trends for part-time women teachers, though more irregular, show a similar pattern, falling from more than 50 per cent in 1963 to 37 per cent in 1968 (see table D). In institutes of technology, however, again according to UNESCO(1), the percentage of women teachers was about 8.9 per cent of the total number of teachers in 1960/61.

According to the answers to the "complementary questions" the number of higher and middle level women teachers increased in universities and university colleges between 1958 and 1968 from 10.7 per cent of the total higher and middle level teaching staff to 13.2 per cent. According to UNESCO(1) full and part-time women teachers represented 14 per cent of the full and part-time teaching staff between 1957/58 and 1961/62.

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(1) World Survey of Education, Vol.IV.

Table D

Teaching staff in non-university type teacher training colleges (1954-1968) (a)

Year	Full-time					Part-time				
	Total		Women Teachers		% of women teachers in relation to total	Total		Women teachers		% of women teachers in relation to total
	Absolute figures	Indexes	Absolute figures	Indexes		Absolute figures	Indexes	Absolute figures	Indexes	
1954-55	1,200	67	..	..	..	..	..	..	..	..
1955-56	..	..	..	..	..	..	..	..	..	..
1956-57	..	..	..	..	..	..	..	..	..	..
1957-58	1,020	57	..	..	..	..	..	..	..	..
1958-59	1,055	59	..	..	..	..	..	..	..	..
1959-60	1,056	59	624	56	59	..	..	..	..	..
1960-61	1,697	95	1,069	95	63	..	..	..	..	..
1961-62	1,796	100	1,121	100	62	136	100	58	100	43
1962-63	1,610	90	899	80	56	506	372	389	671	77
1963-64	1,476	82	710	63	48	560	412	296	510	53
1964-65	1,463	82	700	62	48	564	415	296	510	53
1965-66	1,411	79	664	59	47	445	327	227	391	51
1966-67	1,295	72	585	52	45	594	437	254	438	43
1967-68	1,328	74	553	49	42	680	500	247	426	36
1968-69	1,305	73	507	45	39	559	411	206	355	37

Source: Elementary-Secondary Section, Education Division, DBS, April 30, 1969.

Note: (a) A few teacher training colleges were absorbed by universities in the course of this period. Such was the case in British Columbia, Saskatchewan (1964-65), Manitoba and Prince Edward Island (1965-66).

Table E

Breakdown of the teaching staff in university-type higher education
(universities and colleges) into full-time and part-time teachers
(1954-1963)

Year	Full-time		Part-time		Total		
	Absolute figures	Index	Absolute figures	Index	Absolute figures	Index	% of part-time teachers
1954-55	6,474	100	5,237	100	11,711	100	45
1955-56	6,719	104	5,347	102	12,066	103	44
1956-57	7,000	108	5,560	106	12,560	107	44
1957-58	7,500	116	5,790	111	13,290	113	44
1958-59	8,200	127	6,075	116	14,275	122	43
1959-60	9,200	142	6,400	122	15,600	133	41
1960-61	9,755	151	6,700	128	16,455	141	41
1961-62	10,540	163	7,130	136	17,670	151	40
1962-63	11,670	180	7,540	144	19,230	164	39
1963-64	12,940	200	7,990	153	20,930	179	38
1964-65							
1965-66							
1966-67							
1967-68	20,700(a)	320	-	-	-	-	-

Sources: Survey of Higher Education, DBS, 1954-1965.
Survey of Vocational Education and Training, DBS, 1961-64.

Note: (a) Estimates.

It will be seen from tables IV, V and VI in annex (number of university senior and middle level teachers by field of study) that the number of women teachers increased between 1957 and 1968 both in absolute and in relative terms. The increase is particularly marked in pure sciences, medical sciences and the humanities. In other fields of study their number is still almost negligible. Again, in others (e.g. in education), there has been an increase in the absolute figure but the proportion has declined.

Table V in annex shows that the percentage of senior level women teachers is much lower than the percentage of middle level women teachers. Some champions of the cause of improved status for women therefore demanded the abolition of discriminatory measures against women teachers, to give them an equal chance of promotion with men. This would enhance their incentive to attain high qualifications and thus improve the available supply.(1)

2. Proportion of part-time teachers in higher education

A clear picture emerges from tables D and E.

In non-university education, part-time teachers in State institutes of technology amounted to less than 10 per cent of the teaching body at the very beginning of the '60's.(2)

Table D seems to indicate that the strength of part-time teachers in teacher training institutions increased in the early '60's - rising from 7 per cent of the total teaching staff in 1961 to 30 per cent in 1968.

Table E(3) shows the number of full-time and part-time teachers in higher educational institutions (universities and colleges) over a 10 year period. It is clear that the number of part-time teachers is relatively large, although it declined from 45 to 38 per cent between 1954 and 1963.

In answer to the "complementary questions" it was stated that no satisfactory basis existed for the conversion of part-time teachers to the equivalent of full-time teachers.

IV. Conclusions

An evaluation of the growth of the total full-time teaching staff in higher university education from 1954 to 1967 (table E) shows that a great effort to recruit staff has been successful. In the ten years between 1954 and 1963 the number of teachers doubled, and between 1954 and 1967 it more than trebled. The student/teacher ratio seems to have risen during the '60's in institutes, affiliated colleges and junior colleges. Women teachers are about three times as well represented in teacher training colleges (nearly 40 per cent) than in university-type education (14 per cent of senior and middle level teachers). There are more part-time teachers in university education than in teacher training colleges (38 per cent compared with 28 per cent in 1963/64).

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(1) "One obvious source of recruits - the second sex - has until very recently been completely overlooked. Women students have not been actively encouraged to go on to graduate work, and those who have done so have been subjected to every sort of frustration in finding and establishing themselves in university teaching positions, except for a brief emergency shortage during and after World War II. Some universities have refused outright to appoint women to permanent positions; many have dismissed women teachers if they marry; most refuse rank and tenure to women whose husbands teach in the same department - and so on through an almost inexhaustible list of major and petty discriminations." (Marion Smith, University of Manitoba. "The Recruitment and Training of University Teachers." (IAUPL).

(2) Source: World Survey of Education, UNESCO, Vol.IV.

(3) Answers to "complementary questions".

ANNEX I

Table I

Full-time teaching staff (senior level and middle level) in university institutions

Status / Year	SL (a)		ML (b)		Total	
	Absolute figures	Indexes	Absolute figures	Indexes	Absolute figures	Indexes
1956-57	1,179	100	2,775	100	3,954	100
1957-58	1,267	107	3,116	112	4,383	111
1958-59	1,328	113	3,475	125	4,803	121
1960-61	1,440	122	4,504	162	5,944	150
1962-63	1,654	140	5,787	209	7,441	188
1963-64	1,814	154	6,808	245	8,622	218
1965-66	2,322	197	9,340	337	11,662	295
1967-68	3,160	268	13,218	476	16,378	414
1968-69	3,614	307	15,051	542	18,665	472

Source: Dominion Bureau of Statistics, Education Division.

Notes: (a) SL = Deans and titular professors.

(b) ML = Associate professors, assistant professors, ungraded professors, lecturers and instructors.

Table II

Student enrolments in university and non-university institutions (a)

Year	University						Non-university (full-time)			
	Full-time		Part-time		Total		Teacher training		Technical institutions	
	Absolute figures(b)	Indexes	Absolute figures(b)	Indexes	Absolute figures(b)	Indexes	Absolute figures(b)	Indexes	Absolute figures(b)	Indexes
1954-55	68,320	100	10,800	100	79,100	100	8,700	100	3,900	100
1955-56	72,737	106	10,100	94	82,800	105	10,700	123	6,500	167
1956-57	78,504	115	13,000	120	91,500	116	10,400	120	7,200	185
1957-58	86,754	127	17,600	163	104,400	132	11,500	132	7,600	195
1958-59	94,994	139	27,100	251	122,100	154	14,700	169	9,200	236
1959-60	101,934	149	28,900	268	130,800	165	16,700	192	10,400	267
1960-61	113,864	167	31,200	289	145,100	183	19,000	218	11,700	230
1961-62	128,894	189	38,100	359	167,000	211	20,400	234	13,500	396
1962-63	141,388	207	44,000	407	185,400	234	20,900	240	14,200	364
1963-64	158,388	232	57,000	528	215,400	272	23,800	274	16,900	433
1964-65	178,238	261	63,800	591	242,000	306	21,900	252	21,200	544
1965-66	205,888	301	73,900	684	279,800	354	20,600	237	26,000	667
1966-67	232,672	341	-	-	-	-	-	-	-	-
1967-68	261,207	382	-	-	-	-	-	-	-	-

Sources: First column: Higher Education Section - Education Division, DBS.
Other columns: Enrolments in Schools and Universities 1951-52 to 1975-76 by W.M. Illing and Z.E. Zsigmond.
Economic Council of Canada (Staff study No.20 - October 1967).

Notes: (a) Schools of nursing not included.
(b) Rounded totals.

Table III

Rate of growth of full-time teaching staff by field of specialisation; global rate of growth of teaching staff (senior level and middle level) and full-time students (in university institutions)

Field of specialisation	Teaching staff Rate of growth 1956-1967 Total	Students Rate of growth 1956-1967 Total
Pure science	14.4	...
Architecture	7.9	...
Technology	10.6	...
Total science and technology	14.8	...
Medical sciences	12.3	...
Agriculture	4.5	...
Humanities	17.3	...
Education	17.5	...
Fine arts	12.2	...
Law	13.9	...
Social sciences	11.7	...
Others	11.1	...
TOTAL	13.8	11.5
SL (a)	9.4	
ML (b)	15.3	

Source: Bureau of Statistics, Education Division.
For the classification by field of specialisation, see table IV.

Notes: (a) SL = Deans and titular professors.

(b) ML = Associate professors, assistant professors, professors ungraded, lecturers and instructors.

Table IV

FULL-TIME FEMALE AND MALE TEACHING STAFF (SENIOR LEVEL AND MIDDLE LEVEL) BY FIELD OF SPECIALISATION IN UNIVERSITIES INSTITUTIONS

Field of specialisation / Year	PURE SCIENCE (a)		ARCHITECTURE		TECHNOLOGY (b)		MEDICAL SCIENCES (c)		AGRICULTURE		HUMANITIES (d)		EDUCATION (e)		FINE ARTS (f)		LAW		SOCIAL SCIENCES (g)		OTHER (h)		TOTAL	
	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T
1956/57		1,179		41		430		522		320		798		230		28		66		145		195		3,954
1957/58	105	1,428	2	47	-	421	108	552	8	315	69	894	66	239	8	24	1	82	30	169	74	212	471	4,383
1958/59		1,550		49		489		607		326		953		280		31		86		187		245		4,803
1960/61	166	1,991	2	55	5	685	134	721	5	322	97	1,112	129	438	10	36	1	108	35	189	110	288	694	5,945
1962/63		2,601		60		780		846		386		1,490		562		39		138		240		299		7,441
1963/64		2,867		64		832		939		411		2,032		655		57		146		299		320		8,622
1965/66	355	3,880	-	87	6	969	270	1,174	21	437	379	3,052	236	953	24	108	4	185	48	385	142	432	1,485	11,662
1967/68		5,155		95		1,306		1,866		517		4,599		1,352		99		277		489		623		16,378
1968/69	598	6,115	1	113	5	1,459	507	2,248	29	546	692	4,821	347	1,584	23	124	7	301	53	632	199	722	2,461	18,665

Source : Dominion Bureau of Statistics, Education Division.

Notes : (a) Includes Pure Science and Arts and Science. "Arts and Science", includes an undeterminate number of teachers in Arts connected with Humanities which could not be distinguished from those ones in Sciences.

(b) Includes Engineering and Applied Science.

(c) Includes Dentistry, Medicine, Nursing, Pharmacy, Physico and Occupational Therapy.

(d) Includes "Arts" and Theology (see note "a").

(e) Includes Education and Physical and Health Education.

(f) Includes Music.

(g) Includes Business, Business Administration and Social Work.

(h) Includes Faculties, etc., NDA and Household Science.

Table IV bis

Full-time teaching staff (senior level and middle level) by field of specialisation in university institutions (a)

Field of specialisation / Year	Pure science	Archi-tecture	Techno-logy	Medical sciences	Agri-cul-ture	Human-ities	Educa-tion	Fine arts	Law	Social sciences	Other	Total
1956-57	100	100	100	100	100	100	100	100	100	100	100	100
1957-58	121	115	98	106	98	112	104	86	124	117	109	111
1958-59	131	120	114	116	102	119	122	111	130	129	126	121
1960-61	169	134	159	138	101	139	190	129	164	130	148	150
1962-63	221	146	181	162	121	187	244	139	209	166	153	188
1963-64	243	156	193	180	128	255	285	204	221	206	164	218
1965-66	329	212	225	225	137	382	414	386	280	266	222	295
1967-68	437	232	304	357	162	576	588	354	420	337	319	414
1968-69	519	276	339	431	171	604	689	443	456	436	370	472

Note: (a) For source and classification by field of specialisation, see notes to table IV.

Table V

Percentages of female teachers at universities according to status (a)

Status Year	SL	ML	Total
1957-58	3.6	13.7	10.7
1960-61	4.2	14.1	11.7
1965-66	4.0	14.9	12.7
1968-69	3.5	15.5	13.2

Note: (a) For source and classification, see notes to table IV.

Table VI

Percentages of female university teachers (senior level + middle level) by field of specialisation (a)

Year Field of specialisation	1957/58	1960/61	1965/66	1968/69
Pure science	7.4	8.3	9.1	9.8
Architecture	4.3	3.6	-	0.9
Technology	-	0.7	0.6	0.3
Medical sciences	19.6	18.6	23.0	22.6
Agriculture	2.5	1.6	4.8	5.3
Humanities	7.7	8.7	12.4	14.4
Education	27.6	29.5	24.8	21.9
Fine arts	33.3	27.8	22.2	18.5
Law	1.2	0.9	2.2	2.3
Social sciences	17.8	18.5	12.5	8.4
Other	34.9	38.2	32.9	27.6
Total	10.7	11.7	12.7	13.2

Note: (a) For source and classification by field of specialisation, see table IV.

DENMARK

I. Criteria for the recruitment and promotion of teaching staff

The teaching staffs of the universities of Denmark include professors, heads of institutes, lecturers, heads of clinics, tutors, laboratory technicians, assistants and secretaries (amanuensis). When a post is vacant it is normally advertised publicly, but in special cases direct appointments may be made. University qualifications together with a certain teaching experience are the criteria for selection. Nearly all the candidates recruited hold a doctor's degree. It may therefore be assumed that they are fully qualified to perform their duties, if not from the teaching point of view, at least as far as knowledge acquired and specialisation are concerned. For the great majority of posts there are no hard and fast rules that they should be occupied by full-time - as opposed to part-time holders.

Training colleges are directed by Rectors: the teachers are known as "training college lecturers"; in principle they have themselves been trained either in universities or training colleges.

II. Trend in numbers of teachers and students in higher education

Reference to the national yearbooks has made it possible in the present study to cover nearly all the university institutions and some other non-university higher level institutions.(1) The figures obtained on this basis are grouped in tables I and II in the annex.

1. Numbers and student/teacher ratios

On the basis of the absolute figures shown in tables I and II in annex, it has been possible to calculate the overall student teacher ratios. These are summarised in table A below.

Table A

Student/teacher ratios in 1950-51 and 1966-67

	No.of students per senior level teacher S/SL	No.of students per middle level teacher S/ML (a)	No.of students per junior level teacher S/JL (a)	No.of students per senior + middle level teacher S/SL + ML (a)	No.of students per teacher overall S/Total
1950-51	47.9	58.4	27.9	26.3	13.5
1966-67	71.0	116.8	10.0	44.2	8.2

Source: See table I in annex.

Note: (a) Owing to changes in statistical methods in 1960, the ratios for the two different years mentioned are not comparable.

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(1) These institutions are mentioned in notes (a) (e) (f) (g) and (h) of table I in annex.

(a) Additional data for some institutions

Table III shows the number of professors and of "lektorer" employed in higher education at 1st April, 1962 in the towns of Copenhagen and Aarhus. According to the table the numbers of professors (senior level) and of "lektorer" (middle level) in these two universities are more or less the same. It should also be noted that although the number of senior teaching staff more or less coincides with the number given in the Danish Statistical Yearbook the number of middle level staff is far higher (468 against 188). There is no apparent explanation for these differences.

According to a French study published in December 1967 by the Secretariat General of the Government(1) there were 180 professors, 1,011 "lektorer" and assistants, and 16,874 students in 1965 in Copenhagen University. The student/teacher ratio was therefore 14. At Aarhus for the same year there were 103 professors and 5,926 students. The new University of Odensee received its first students in autumn 1966. On 15th August, 1966, professors were appointed to the following Chairs: anatomy, chemistry, biochemistry, Norse literature, philosophy, Slav languages, classical philology, English, Romance languages, history and German.

The colleges of dentistry each have a Rector assisted by 12 professors and about 140 other staff. In 1965, there were 397 students at the Aarhus College of Dentistry (overall ratio 2.6).

In 1965, the Royal College of Veterinary and Agricultural Sciences had 1,350 students and 190 professors and assistants (ratio 7.1). It has not been possible to obtain an explanation for the discrepancies noted in the figures derived from different sources.

(b) The teacher training colleges

In 1961 there were 1,272 teachers in a certain number of non-university teacher training colleges. These teachers gave lectures for 7,765 students, the overall ratio being 6.1.

Finally in October 1966, the breakdown of teachers of the training colleges by level of training was as follows:

	Teachers with university degrees	Teachers holding training college diplomas	Other teachers	Total
Permanent full-time teachers	293	445	84	822
Part-time teachers	143	278	150	571
Total	436	723	234	1,393

Comparing these with the number of training college students calculated for 1966/67 (in **Development of Higher Education, 1950-1967** - Statistical Survey, Denmark, OECD, Paris, 1970), the student/teacher ratio would have been (11,529/1,393) = 8.3.

(c) Fields of study

Finally, by way of indication, mention must be made of some estimates made in June 1967 for certain fields of study by the Board for Higher Educational Planning ("Skitse for

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(1) Notes et Etudes documentaires: l'enseignement au Danemark, p.22, No.3443.

Udbygningen af de Højere Uddannelser i Tiden indtil 1980", p.45) of the number of teachers and students in 1966. They are summarised in table B below.

Table B

Estimated numbers of students and permanent teaching staff in 1965-66

Field of study	Students	Permanent teaching staff	Student/permanent teaching staff ratio
Pure science	3,200	500	6.4
Technology	3,490	645	5.4
Agriculture	1,270	270	4.7
Medical sciences	7,150	420	17.0
Humanities	8,340	275	30.3
Social sciences (a)	7,055	245	28.8
Total	30,505	2,355	12.9

Note: (a) This apparently includes law students.

2. Annual average growth rates in staff and student numbers

The figures in tables I and II in annex show that the number of teachers increased at the rate of 11.4 per cent, whereas that of the students increased at the rate of approximately 7.7 per cent between 1950 and 1966.

The annual average rates of increase of teachers according to level of staff are not significant for the period as a whole except for senior level teachers. Between 1950 and 1966, this category of teachers increased at the rate of 4.6 per cent. Table C which follows shows for two periods (1950-58 and 1960-66) the respective rates of increase for the different categories of teachers and students.

Table C

Annual average growth rates in numbers of staff
(by level of staff) and students

(in percentages)

				Total	
Year	SL	ML	JL	Teachers	Students
1950-58	2.7	3.5	6.6	4.8	0.5
1960-66	6.7	15.4	18.5	16.4	13.4

The considerable difference between the rates of increase for the first and second periods is explained, at least in part, by the fact that eight institutions were examined in the first period, whereas in the second the number of institutions covered increased from one year to another.

3. Structural changes in the teaching body

Taking the Danish Statistical Yearbook as reference the proportion of teachers at the different levels seems to have changed as follows between 1950-51 and 1966-67.

Table D

Percentage breakdown of teachers by level

Years	SL	ML	JL
1950	28.3	23.2	48.5
1958	23.8	20.9	55.3
1960 (a)	19.3	7.3	73.7
1966 (a)	11.5	7.0	81.5

Note: (a) The first two percentages and the last two are not comparable.

III. Composition of the teaching staff in higher education

It has not been possible to obtain sufficient information on this point.

No data are available on the participation of women teachers in university education. For non-university education in 1961/62 there were 228 women among the 1,272 teachers in the teacher training colleges, not including the Denmark Teacher Training College.(1) The percentage of women teachers to the total number of teachers in these institutions was therefore approximately 18 per cent.

It has not been possible to ascertain what proportion of the demand was met by part-time teachers or the part played by overtime in this respect. However, in 1966 in teacher training institutions, there were 671 part-time teachers out of a total of 1,393 teachers, representing 41 per cent of all teachers in these institutions.

The answers to the "complementary questions" showed that senior and middle level teachers are employed full time with the exception of "lektorer".

Junior level staff are on a part-time basis. In many cases the part-time teachers have a teaching load equivalent to a full-time teacher. The data shown in table I in annex refer to teaching posts of all kinds, including combined teaching/research positions. Some teachers hold two posts at the same time, one for research and one for teaching.

IV. Conclusions

It is difficult to draw general conclusions from such disparate data. One or two precise features can, however, be emphasised.

The number of teachers increased far more rapidly than that of students between 1950-51 and 1966-67. This seems to have been largely due to the employment of a high proportion of assistants and teachers under contracts.

In the official reply to the "complementary questions" attention was drawn however to a shortage in the number of teachers which seems unlikely to be remedied in the near future owing to the "explosion" in student numbers in the '60's.

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(1) Source: UNESCO, World Survey of Education, Volume IV.

ANNEX I

Table I

Teaching staff by status in university institutions

Status	Absolute figures				Indexes			
Year	SL (b)	ML (c)	JL (d)	Total	SL	ML	JL	Total
1950/51(a)	284	233	488	1,005	100	100	100	100
1951/52	290	216	596	1,102	102	93	122	110
1952/53	297	225	617	1,139	105	97	126	113
1953/54	313	237	658	1,208	110	102	135	120
1954/55	315	252	688	1,255	111	108	141	125
1955/56	322	253	706	1,281	113	109	145	127
1956/57	339	265	721	1,325	119	114	147	132
1957/58	345	266	737	1,348	121	114	151	134
1958/59	348	305	809	1,462	123	131	166	145
1959/60								
1960/61	391	149	1,489	2,029	138	64	305	202
1961/62(e)	413	188	2,183	2,784	145	81	447	277
1962/63(f)	444	220	2,580	3,244	156	94	529	323
1963/64	445	229	2,970	3,644	157	98	609	363
1964/65	486	255	3,443	4,184	171	109	706	416
1965/66(g)	504	298	3,916	4,718	177	128	802	469
1966/67(h)	579	352	4,108	5,039	204	151	842	501

Source: Statistical Yearbooks of Denmark.

Notes: (a) From 1st April 1951 to 1st April 1959, 8 higher education establishments were taken into account, that is:
- Copenhagen University
- Aarhus University
- the Higher Polytechnical School
- the School of Agriculture and Veterinary Sciences
- the Higher School of Dentistry
- the School of Pharmacy
- the School for Higher Commercial Studies
- the Academy of Fine Arts.

(b) Professors holding a Chair in higher education were included under SL.

(c) The Research Assistants (Docenter), the Lecturers (Lektorer), the Research Scholars (Universitetsadjunkt) and, as of 1961, the Heads of Scientifics Departments (Afdelingsleder) are included in the ML.

(d) All other members of the higher education teaching staff, with the exception of those listed in notes (b) and (c), are included in the JL.

(e) In addition to the 8 establishments listed under note (a), 2 new schools were taken into account for the year 1961:

- the Danish Academy for Engineers
- the Higher School of Dentistry of Aarhus.

(f) To the schools already mentioned is added, as of 1962:

- the Higher Teacher Training College.

(g) As of 1965, the Higher School of Commerce of Aarhus.

(h) For 1966, the following are also included:

- the University of Odensee
- the School of Architecture.

Table II

Student enrolments in university institutions (a)

Year	Enrolments	Indexes
1950/51	13,607	100
1951/52	12,752	94
1952/53	12,568	92
1953/54	12,395	91
1954/55	12,647	93
1955/56	12,510	92
1956/57	12,991	95
1957/58	13,174	97
1958/59	14,182	104
1959/60	-	-
1960/61	19,381	142
1961/62	20,924	154
1962/63	23,853	175
1963/64	26,884	198
1964/65	32,376	238
1965/66	37,381	275
1966/67	41,119	302

Source: Statistical Yearbooks of Denmark (1951-1958 and 1961-1967).

Note: (a) Students from the same schools as those taken into account for the teachers.

Table III

Teaching staff of senior and middle status in university type institutions in Copenhagen and Aarhus - 1st April 1962 - (a)

Status Field of specialisation	SL	ML
Theology	18	5
Law	18	21
Social sciences & economics	17	17
Medical sciences	58	68
Humanities	81	77
Pure sciences	66	96
Total university	258	284
Technical schools	68	52
Engineering schools	-	33
School of dentistry	22	21
School of pharmacy	7	12
Agricultural and veterinary schools	42	36
Schools of architecture	19	12
Teacher training schools	12	-
Schools of commerce	11	18
Schools of music	14	-
TOTAL	453	468

Source: "Planlaegningsradet for de Højere Uddannelser": "Skitse for udbygningen af de højere uddannelser i tiden indtil 1980".

Note: (a) No figures are available for junior level.

SPAIN

In the early '60's there were 12 State universities providing higher education in Spain and also two universities of theology and a private Catholic university. In addition, there were a certain number of higher technological institutes, of which the most important were: two schools of civil engineering, (Madrid and Barcelona); an institute of aeronautical engineering in Madrid; three schools of architecture (Barcelona, Seville and Madrid); agricultural institutes in Madrid and Valencia; a civil engineering institute in Madrid; schools of industrial engineering in Madrid, Barcelona and Bilbao; an institute of textile engineering in Barcelona; and institutes of mining engineering, forestry, marine engineering and telecommunications, all in Madrid.

I. Criteria for the recruitment and promotion of teaching staff

At the summit of the university teaching hierarchy are the titular professors (established posts) who give the main courses in their subject and are responsible for those who teach other aspects of it. All titular professors must hold a doctor's degree; when a Chair becomes vacant, the acting professor appointed to it usually has the same qualifications and carries out the same duties. Associate professors must also have a doctor's degree, and are usually responsible for seminars. Lecturers usually hold a doctorate degree (though sometimes only a "licenciado") and lecture on subsidiary subjects, assisted by junior lecturers. Teaching assignments calling for high specialisation are often given to extraordinary professors who have made a name for themselves in that particular subject. These teachers are appointed by a commission of university experts. Appointments to established posts are made from among professors already holding a Chair, or may be filled by open competitive examinations which are always held in Madrid before a board specially set up for each case. Only holders of a doctor's degree who have completed two years of teaching research in a State institution are admissible as candidates. Titular professors acquire the status of civil servants. Acting professors are appointed for three years, and lecturers and junior lecturers for one year only. These appointments are renewable on the recommendation of the Dean of the faculty after consultation with the professor of the subject concerned. Professors are encouraged to engage in research in subjects of particular interest to them, although they are under no obligation to do so.

In the technological institutes providing university type higher education, the teaching staff is composed of established titular professors, acting professors, associate professors, visiting professors, lecturers in charge of courses, special lecturers, demonstrators, and workshop and laboratory auxiliary staff. The recruitment of staff in these institutes is governed by the same criteria as those applicable to university professors.

Titular professors are appointed for life. They must hold a doctor's degree. Visiting professorships are usually assigned to professors from other universities who have made a name for themselves as teachers in a particular field.

The Mediterranean Regional Project Report on Spain (published by the OECD in 1965) described the problems involved in the recruitment of the teaching body as follows:

"The present method of selection and the structure of the professorial body in general have serious faults. The first of these is the very sharp distinction between senior professors and all other teachers. A system permitting greater mobility in promotion would be much more efficient. The second fault is selection by competitive examination, which forces senior professorship candidates to concentrate on acquiring encyclopaedic knowledge which does not appear to be the most suitable. The third fault is the contradiction between the fact that appointment to professorship presupposes, in principle, that the applicant is completely trained, and the necessity for assistant professors and lecturers acting as senior professors to dedicate part of their time to parallel occupations, at the expense of teaching and their own studies."

II. Trends in numbers of teachers and students in higher education

A. Universities and university-type institutions

1. Enrolments and student/teacher ratios

The statistics on higher education (1) have made it possible to examine the general trend and establish a breakdown by major fields of study between 1955 and 1965. Tables I and II in annex show the numbers of teachers and students, and the various student/teacher ratios have been calculated on this basis, both in overall terms and by level of teaching staff. These ratios are given in table A. For technical statistical reasons, three periods are considered. The first covers 1955 to 1959. The second, from 1960 to 1964, opens with a sharp fall in the overall number of teachers and a less marked decline in the number of students. This fall is attributable to the exclusion of "ayudantes" (assistants), "auxiliares" and other junior level teachers from the statistics presented (see note (b) of table I in annex). This explains the wide disparities between both student/junior level teachers and overall student/teacher ratios before and after 1960. The same disparities will be observed in almost all subsequent breakdowns, and since the explanation is the same we shall not refer to it again.

Presentation of the statistical data for 1965 roughly resembles that used for the period 1955-1960, but there are one or two differences.

2. Annual average growth rates

For the reasons given above, it has been necessary to consider two separate periods: the period before 1960 and the period 1960-1964; table B summarises the trends in numbers by field of study and level for these two periods.

3. Structural changes in the teaching staff

These changes are summarised in table C, which covers three separate periods, again allowing for differences in statistical approach. The first extends to 1959-60, the second from 1960-61 to 1964-65 and the third covers the year 1965-66. In almost all fields of study the exclusion of certain junior level teachers from the statistical data has resulted in an apparent relative increase in numbers of senior and middle level teachers, whereas the proportion of senior level teachers often fell between 1951 and 1959.

Table C shows clearly that there was a proportionally higher increase in the number of assistants and similar teachers between 1960 and 1964, a trend which has been observed in other countries.

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(1) Source: National Institute of Statistics: Estadistica de la Enseñanza en España.

Table A

Student/teacher ratios by field of study and level of teaching staff

Field of study		S/SL	S/ML	S/JL	S/SL + ML	S/T
Pure science	1955-56	54.9	26.5	16.2	17.9	8.5
	1959-60	82.0	34.5	28.0	24.3	13.0
	1960-61	82.2	36.9	44.5	25.5	16.2
	1964-65	111.4	63.1	56.3	40.3	23.5
	1965-66	103.5	44.7	29.8	31.2	15.2
Architecture (a)	1951-52	18.2	123.6	19.3	15.8	8.7
	1964-65	123.7	35.6	16.2	27.7	10.2
	1965-66	132.3	38.3	19.3	29.7	11.7
Technology	1951-52	12.6	207.9	8.7	11.9	5.0
	1959-60	58.5	57.3	30.8	28.9	14.9
	1960-61	51.4	39.5	34.8	22.3	13.6
	1964-65	82.7	42.7	18.5	28.2	11.2
	1965-66	91.6	47.5	25.8	31.3	14.1
Medical sciences	1955-56	110.2	60.0	34.4	38.8	18.3
	1959-60	100.9	51.6	20.7	34.1	12.9
	1960-61	88.0	46.1	488.4	30.2	28.5
	1964-65	101.0	54.8	181.1	35.5	29.7
	1965-66	111.3	47.8	55.9	33.4	20.9
Agriculture	1954-55(b)	14.8	207.0	37.6	13.8	10.1
	1955-56	50.4	46.2	22.7	24.1	11.6
	1959-60	45.0	21.1	18.3	14.4	8.1
	1960-61	48.4	21.6	47.7	14.6	11.4
	1964-65	40.9	24.8	18.6	15.4	8.4
	1965-66	61.7	21.9	26.5	16.2	10.1
Humanities	1955-56	34.5	26.3	12.4	14.9	6.8
	1959-60	39.5	26.0	19.5	15.7	8.7
	1960-61	48.6	37.8	47.5	21.2	14.7
	1964-65	67.4	51.7	47.4	29.3	18.1
	1965-66	69.4	50.8	26.3	29.3	13.9
Law	1955-56	126.9	97.1	33.7	55.0	20.5
	1959-60	96.6	63.1	24.6	38.2	15.0
	1960-61	89.4	60.5	195.3	36.1	35.4
	1964-65	81.7	57.3	186.6	33.7	28.5
	1965-66	89.5	47.0	48.7	30.8	18.9
Social sciences	1955-56	143.2	46.8	15.5	35.2	10.8
	1959-60	92.6	76.6	20.1	41.9	13.6
	1960-61	181.9	77.6	104.3	54.4	35.8
	1964-65	241.0	173.2	140.3	100.8	58.7
	1965-66	217.2	107.7	71.1	72.0	35.8
Total	1950-51	84.1	63.1	31.1	36.1	16.7
	1955-56	64.7	49.5	24.3	28.1	11.7
	1959-60	73.5	45.4	42.4	28.1	12.8
	1960-61	72.8	42.6	74.6	26.8	19.8
	1964-65	92.1	53.8	44.8	34.0	19.3
	1965-66	97.8	47.5	34.3	65.1	16.5

Notes: (a) The statistics for architecture were not affected by the new classification of junior level teachers in 1960.

(b) In the case of agriculture, the statistics cover a larger number of institutions after 1954-55. Four separate periods are therefore shown: 1952-1954; 1955-1959; 1960-1964; and 1965.

Table B

Average annual rate of growth

(in percentages)

Field of study		Teachers				Students
		SL	ML	JL	Total	
Pure science	1955-59	4.0	7.7	0.3	3.4	14.9
	1960-64	2.4	-3.3	4.0	0.5	10.5
Architecture	1951-59	-0.4	25.0	4.6	5.5	13.7
	1960-64	3.1	13.9	43.0	26.0	33.0
Technology	1951-59	4.4	49.0	8.0	10.4	27.0
	1960-64	2.2	14.3	36.5	22.5	16.5
Medical sciences	1955-59	2.3	3.9	13.6	9.2	0.0
	1960-64	3.3	1.3	35.5	4.6	5.8
Agriculture	1953-59	14.8	-(a)	7.6	44.0	36.0(a)
	1960-64	6.2	-1.6	28.9	9.7	1.7
Humanities	1955-59	4.7	8.5	-3.4	1.8	8.3
	1960-64	5.5	6.8	14.5	8.8	14.6
Law	1955-59	2.8	6.9	3.9	4.5	-4.0
	1960-64	2.4	1.7	80.0	5.8	0.3
Social sciences	1955-59	40.0	11.2	17.9	18.8	26.0
	1960-64	7.0	-6.4	6.7	1.5	14.9
Total	1950-59	6.0	8.4	7.7	7.6	4.5
	1960-64	3.5	3.6	25.0	10.5	9.9

Source: Basic tables I and II in annex.

Note: (a) The rate has no significance owing to the very low number in the first year.

Table C

Structural changes in the teaching staff

(as percentage of total staff)

Periods	I						II						III		
Year	1951-52			1959-60			1960-61			1964-65			1965-66		
	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL	SL	ML	JL
Pure science	15.5 (a)	32.1 (a)	52.4 (a)	15.8	37.7	46.5	19.7	43.9	36.4	21.1	37.2	41.7	14.7	34.1	51.2
Architecture	47.9	7.0	45.1	30.3	27.5	42.2	18.5	43.2	38.3	8.3	28.7	63.0	8.9	30.6	60.5
Technology	39.8	2.4	57.8	25.5	26.1	48.4	26.5	34.5	39.0	13.5	26.1	60.4	15.4	29.7	54.9
Medical sciences	16.6 (a)	30.4 (a)	53.0 (a)	12.8	24.9	62.3	32.4	61.8	5.8	29.4	54.2	16.4	18.3	13.8	37.4
Agriculture	23.2 (a)	25.3 (a)	51.5 (a)	17.9	38.1	44.0	23.5	52.6	23.9	20.6	34.1	45.3	16.3	45.9	37.8
Humanities	19.6 (a)	25.7 (a)	54.7 (a)	22.0	33.4	44.6	30.2	38.9	30.9	26.9	35.0	38.1	20.0	27.3	52.7
Law	16.5 (a)	21.5 (a)	62.0 (a)	15.5	23.7	60.8	39.6	58.5	1.9	34.9	49.8	15.3	21.0	40.2	38.8
Social sciences	7.5	23.0	69.5	14.7	17.7	67.6	19.7	46.1	34.2	24.3	33.9	41.8	16.5	33.2	50.3
Total	20.6	28.8	56.6	17.4	28.2	54.3	27.1	46.4	26.5	21.0	35.9	43.1	16.9	34.8	48.3

Source: See table I in annex.

Note: (a) Year 1955-56, not 1951-52.

Table D

Part played by women teachers in higher education from 1940 to 1966

Field of study	1940-41	1950-51	1955-56	1960-61 (b)	1966-67 (c)	Annual average growth rate
General total (a)						
Number of teachers	1,865	3,439	4,116	2,791	6,272	4.8
of whom women	66	248	349	-	860	10.4
percentage of women teachers	3.5	7.2	8.5	-	13.7	
Sciences						
Number of teachers	274	729	845	807	1,546	6.9
of whom women	15	104	104	-	248	11.4
percentage of women teachers	5.5	14.3	12.3	-	16.0	
Medical sciences and pharmacy						
Number of teachers	877	1,055	1,232	686	1,710	2.6
of whom women	17	19	38	-	185	9.6
percentage of women teachers	1.9	1.8	3.1	-	10.8	
Agriculture (d)						
Number of teachers	24	229	203	145	188	8.2
of whom women	-	2	3	-	11	-
percentage of women teachers	-	0.9	1.5	-	5.9	-
Humanities						
Number of teachers	297	695	791	589	1,590	6.7
of whom women	31	111	188	-	381	10.1
percentage of women teachers	10.4	16.0	23.8	-	24.0	
Law						
Number of teachers	393	509	832	386	807	2.8
of whom women	3	9	9	-	23	8.1
percentage of women teachers	0.8	1.8	1.1	-	2.9	
Social sciences (e)						
Number of teachers	-	222	213	178	431	(1950-66) 4.2
of whom women	-	3	7	-	12	9.0
percentage of women teachers	-	1.4	3.3	-	2.8	

Source: Estadistica de la Enseñanza superior en España, series 1966-67-68.

Notes:
(a) Excluding architecture and technology.
(b) Excluding assistant professors.
(c) Including professors at the pontifical universities.
(d) Veterinary studies only.
(e) Political science, economics and commerce.

B. Non-university type higher education institutions

In a number of non-university higher education institutions (schools of music, dramatic art and fine arts)(1), there were 273 teachers and 9,138 students in 1957-58. In 1961-62 there were 304 teachers and 9,428 students. Only the overall student/teacher ratio could be calculated; it fell from 33.5 to 31. The growth rates in numbers of teachers and students were 2.7 and 0.8 per cent respectively. It was not possible to obtain any other information.

III. Composition of the teaching staff in higher education

In addition to the breakdown by level of teaching staff, it has been possible to compile a few details concerning the composition of the teaching staff.

1. Part played by women teachers

UNESCO has provided various quantitative data on the part played by women teachers in non-university type higher education. There were 77 women out of a total of 307 teachers in 1960-61, i.e. 25.3 per cent, in the nine higher education schools of fine arts, dramatic art and music.

The statistics on higher education in Spain also provide figures for women teachers in university education from which table D below has been constructed. From 1940 to 1966, the proportion of women teachers increased continuously from 3.5 per cent to 13.7 per cent of total teaching staff. These figures, unfortunately, do not include technology or architecture which would tend to reduce this percentage.

2. Part-time staff

No figures on part-time staff could be obtained. However, the Mediterranean Regional Project report on Spain states that "where titular professors are not required to teach on a full-time basis (although most of them have no other teaching responsibilities), the number of hours of lectures they give per week is between three and six according to the faculty and the subject taught. Those working full-time have to teach 36 hours per week, though only part of this time is actually spent in formal lecturing. At the moment 30 per cent of the titular professors are employed on a full-time basis and 70 per cent on a part-time basis, but it would be better if the proportions were reversed".(2)

IV. Conclusions

Owing to frequent changes in the statistical approach, the strictly quantitative trends in numbers of teachers in higher education can be determined for short periods only.

From 1955 to 1960 the overall number of teachers increased faster than the number of students in agriculture, medicine and law only. The overall student/teacher ratio in university education therefore increased. Conversely, this ratio fell in the period 1950-1960, which indicates a proportionally higher rate of increase in numbers of teachers in the early 'fifties. The numbers of teaching staff at all levels increased faster than the numbers of students between 1950 and 1959. The overall numbers of teachers rose more rapidly than those of students in technology, agriculture and law from 1960 to 1964. Between 1950 and 1965 there has been little change in the overall student/teacher ratio in university education.

Generally speaking, the number of middle-level teachers has shown the highest rate of increase.

In the fine arts schools, which are treated as non-university type higher education institutions, UNESCO has provided some figures which indicate a proportionally higher increase in numbers of teachers.

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(1) World Survey of Education, Volume IV: 8 institutions in 1958 and 9 in 1961.

(2) Mediterranean Regional Project - Spain, OECD, Paris, 1965.

ANNEX I

ANNEXE I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS (FULL TIME AND PART TIME) (a)
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE
(PLEIN TEMPS ET TEMPS PARTIEL) (a)

SL = Senior Level
ML = Middle Level
JL = Junior Level

Statut Supérieur = SS
Statut Moyen = SM
Statut Inférieur = SI

COUNTRY / PAYS : SPAIN / ESPAGNE
TABLE / TABLEAU : 1

Field of specialization / Branches — Year / Année	PURE SCIENCE / SCIENCES PURES				ARCHITECTURE				TECHNOLOGY / TECHNOLOGIE				MEDICAL SCIENCES / SCIENCES MEDICALES				AGRICULTURE				HUMANITIES / LETTRES				LAW / DROIT				SOCIAL SCIENCES / SCIENCES SOCIALES				Difference = Other education/ Autres enseignements				TOTAL			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1950/51																																	649	865	1 754	3 268	649	865	1 754	3 268
1951/52					34	5	32	71	165	10	240	415																					638	910	2 026	3 574	837	925	2 298	4 060
1952/53					32	11	24	67	157	7	240	404					26	-	9	35													667	911	2 232	3 810	882	929	2 505	4 316
1953/54					34	3	29	66	157	31	217	405					25	1	9	35													656	1 094	2 270	4 020	872	1 129	2 525	4 526
1954/55					33	6	40	79	213	118	192	523					2	2	11	41													682	1 130	2 546	4 358	956	1 256	2 789	5 001
1955/56	131	271	443	845	36	6	36	78	215	97	173	485	204	375	653	1 232	55	60	122	237	155	203	432	790	137	179	516	832	16	49	148	213					949	1 240	2 523	4 712
1956/57	135	281	481	897	34	31	28	93	218	104	204	526	204	377	965	1 546	56	64	120	240	161	218	382	761	138	199	539	876	28	51	217	296					974	1 325	2 936	5 235
1957/58	138	292	457	887	33	29	35	97	209	162	194	565	207	354	1 060	1 621	56	67	142	265	173	227	392	792	150	216	549	915	32	48	285	365					998	1 395	3 114	5 507
1958/59	154	380	489	1 023	33	42	28	103	217	194	277	688	209	392	1 074	1 675	57	96	110	263	182	262	342	786	151	230	563	944	32	71	223	326					1 035	1 667	3 106	5 808
1959/60	153	364	449	966	33	30	46	109	234	239	444	917	223	436	1 089	1 748	57	121	140	318	186	282	377	845	153	234	600	987	62	75	286	423					1 101	1 781	3 431	6 313
1960/61 (b)	159	354	294	807	30	70	62	162	219	285	323	827	222	424	40	686	59	132	60	251	178	229	182	589	153	226	7	386	35	82	61	178					1 055	1 802	1 029	3 886
1961/62	161	377	264	802	30	75	63	168	212	257	516	985	224	434	44	702	60	133	98	291	179	273	309	761	150	223	15	388	38	68	69	175					1 054	1 850	1 368	4 272
1962/63	156	336	301	793	34	92	95	221	210	371	770	1 351	220	404	46	670	62	197	107	366	181	237	270	688	151	245	7	403	40	67	83	190					1 054	1 949	1 679	4 682
1963/64	169	378	153	700	32	101	156	289	240	484	826	1 550	247	518	32	797	62	158	153	373	191	262	270	723	164	299	45	508	53	69	87	209					1 158	2 269	1 722	5 149
1964/65	175	309	346	830	34	118	259	411	251	486	1 124	1 861	242	446	135	823	75	124	165	364	221	288	314	823	169	241	74	484	46	64	79	189					1 213	2 076	2 496	5 785
1965/66	189	438	657	1 284	44	152	301	497	251	484	893	1 628	254	592	506	1 352	71	200	165	436	250	342	663	1 255	171	326	314	811	55	111	168	334					1 285	2 645	3 665	7 595

Source : "Estadistica de la Enseñanza Superior en España".
Notes : (a) Teaching staff in universities and higher technical institutions.
(b) 1951/52 to 1959/60 : SL = Professors Titular (Catedraticos)
ML = Special professors (Especiales)
Assistant professors (Adjuntos)
JL = Lecturers (Encargados)
Auxiliaries (Auxiliares)
Assistants (Ayudantes)
Others (Otros)
Demonstrators, workshop and laboratory auxiliary staff
(Maestros de taller, ayudantes de talleres praticos)
1960/61 to 1964/65 : SL = Professors Titular (established and not established)
(Catedraticos numerarios y extraordinarios)
ML = Associate professors (Adjuntos - con encargo de catedra
- sin encargo de catedra)
Special teachers (Especiales)
Acting professors (Prof.encargados de catedra vacante)
JL = Lecturers (Encargados de curso)
Demonstrators (Maestros de taller, Maestros de laboratorio)
Others (Otros)
1965/66 : SL = The same teachers as for 1960/64
ML = The same teachers as for 1960/64
JL = Lecturers (Encargados de curso)
Established assistants (Ayudantes con plaza dotada).

Source : "Estadistica de la Enseñanza Superior en España".
Notes : (a) Enseignants des universités et établissements d'enseignement technique de niveau universitaire.
(b) de 1951/52 à 1959/60 : SS = Professeurs titulaires (Catedraticos)
SM = Professeurs spéciaux (Especiales)
Professeurs adjoints (Adjuntos)
SI = Chargés de cours (Encargados)
Auxiliaires (Auxiliares)
Assistants (Ayudantes)
Autres
Maîtres d'atelier (Maestros de taller)
Assistants d'atelier (Ayudantes de talleres praticos)
de 1960-61 à 1964/65 : SS = Professeurs titulaires (ordinaires et extraordinaires)
(Catedraticos numerarios y extraordinarios)
SM = Adjoints avec une charge de cours (Adjuntos con encargo de catedra)
Adjoints sans charge de cours (Adjuntos sin encargo de catedra)
Spéciaux (Especiales)
Professeurs chargé de chaire vacante (Pr. encargados de catedra vacante)
SI = Chargés de cours (Encargados de curso)
Maîtres d'atelier (Maestros de taller)
Maîtres de laboratoire (Maestros de laboratorio)
Autres
1965/66 : SS = les mêmes enseignants que pour 1960/64
SM = les mêmes enseignants que pour 1960/64
SI = Chargés de cours (Encargados de curso)
Assistants ayant un poste assuré (Ayudantes con plaza dotada).

TEACHING STAFF BY FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS (FULL TIME AND PART TIME)
PERSONNEL ENSEIGNANT PAR BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE
(PLEIN TEMPS ET TEMPS PARTIEL)

SL = Senior Level — *Statut Supérieur = SS*
ML = Middle Level — *Statut Moyen = SM*
JL = Junior Level — *Statut Inférieur = SI*

COUNTRY : SPAIN
PAYS : ESPAGNE
TABLE : I bis (Indexes)
TABLEAU : I bis (Indices)

Field of specialization/ Branches — Year / Année	PURE SCIENCE SCIENCES PURES		ARCHITECTURE			TECHNOLOGY TECHNOLOGIE			MEDICAL SCIENCE SCIENCES MEDICALES		AGRICULTURE		HUMANITIES LETTRES		LAW DROIT		SOCIAL SCIENCES SCIENCES SOCIALES		TOTA							
																			SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1951/52					100			100											100	100	100	100				
1952/53					94			97											105	100	109	106				
1953/54					91			98			100								104	122	110	111				
1954/55					111			126			117								114	136	121	123				
1955/56		100			110			117	100		677		100		100		100		113	134	110	116				
1956/57		106		100	131		100	127	125		686		96		105		139		116	143	128	129				
1957/58		105		104	137		107	136	132		757		100		110		171		119	151	136	136				
1958/59		121		111	145		131	166	136		751		99		113		153		124	180	135	143				
1959/60		114		117	154		174	221	142		909		107		119		199		132	193	149	155				
1960/61 (a)	100		100			100				100		100		100		100		100					100	100	100	100
1961/62	109		104			119				102		116		129		101		98					100	103	133	87
1962/63	108		136			163				98		146		117		104		107					100	108	163	120
1963/64	95		179			187				116		149		123		132		117					110	126	167	132
1964/65	106		254			225				120		145		140		125		106					115	115	243	149

Note : (a) see note (b) on table I.
Note : (a) voir note (b) du tableau I.

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS
EFFECTIFS D'ETUDIANTS DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE

COUNTRY : SPAIN
PAYS : ESPAGNE
TABLE : II
TABLEAU : II

ABSOLUTE FIGURES/CHIFFRES ABSOLUS

Field of specialization/ Branches — Year / Année	PURE SCIENCE SCIENCES PURES	ARCHITECTURE	TECHNOLOGY TECHNOLOGIE	MEDICAL SCIENCE SCIENCES MEDICALES	AGRICULTURE	HUMANITIES LETTRES	LAW DROIT	SOCIAL SC. SCIENCES SOC.	OTHER AUTRES	TOTAL
1950/51									54 605	54 605
1951/52		618	2 079						53 728	56 425
1952/53		664	2 356		302				58 143	61 465
1953/54		458	2 533		354				59 580	62 925
1954/55		463	2 696		414				58 666	62 239
1955/56	7 193	543	3 395	22 484	(a) 2 271	5 347	17 385	2 291		61 409
1956/57	8 154	1 170	3 582	23 195	(a) 3 474	5 890	19 471	3 290		68 226
1957/58	10 397	1 239	9 009	23 895	(a) 2 863	6 486	17 847	4 082		75 818
1958/59	10 679	1 416	15 101	23 413	(a) 3 055	6 853	15 724	5 104		81 345
1959/60	12 552	1 723	13 692	22 501	(a) 2 564	7 345	14 773	5 742		80 892
1960/61	13 071	1 350	11 250	19 538	(a) 2 857	8 648	13 673	6 365		76 752
1961/62	13 290	1 779	14 222	20 095	(a) 2 628	9 554	13 438	7 034		82 040
1962/63	14 869	1 903	15 118	21 740	(a) 2 480	10 624	13 418	8 200		88 358
1963/64	17 788	2 390	17 789	24 888	(a) 3 108	12 433	14 103	10 356		102 855
1964/65	19 489	4 205	20 755	24 454	(a) 3 070	14 894	13 812	11 087		111 766
1965/66	19 562	5 820	23 002	28 272	(a) 4 378	17 359	15 307	11 950		125 650

INDEXES/INDICES

Field of specialization/ Branches — Year / Année	PURE SCIENCE SCIENCES PURES	ARCHITECTURE	TECHNOLOGY TECHNOLOGIE	MEDICAL SCIENCE SCIENCES MEDICALES	AGRICULTURE	HUMANITIES LETTRES	LAW DROIT	SOCIAL SCIENCES SCIENCES SOCIALES	TOTAL
1950/51									100
1951/52		100	100						103
1952/53		107	113		100				113
1953/54		74	122		117				115
1954/55		75	130		137				114
1955/56	100	88	163	100	918 (a)	100	100	100	112
1956/57	113	189	172	103	1 150 (a)	110	112	144	125
1957/58	145	200	433	106	948 (a)	121	103	178	139
1958/59	148	229	726	104	1 012 (a)	128	90	223	149
1959/60	174	279	659	100	85 (a)	137	85	251	148
1960/61	100	100	100	100	100 (a)	100	100	100	100
1961/62	102	132	126	103	92 (a)	110	98	111	107
1962/63	114	141	134	111	87 (a)	123	98	129	115
1963/64	136	177	158	127	109 (a)	144	103	163	134
1964/65	149	311	184	125	107 (a)	172	101	174	146
1965/66	150	431	204	145	153 (a)	201	112	188	164

Source : Estadistica de la Enseñanza superior en España.
Note : (a) Includes High Schools for Agronomists, High School for Engineers in Forestry and School of Veterinaries.
(a) Comprend les Ecoles techniques supérieures d'ingénieurs agronomes, l'Ecole technique supérieure d'ingénieurs des Eaux et Forêts et la Faculté de médecine vétérinaire.

UNITED STATES

I. Criteria for the recruitment and promotion of teaching staff

The criteria applied by United States universities for the recruitment of teachers vary considerably from one university to another. Some institutions merely require a doctorate awarded by any higher education institution, public or private, well-known or otherwise. In some cases, it may not even be necessary for the candidate to hold a university degree, provided that he has won recognition in his own field. The most common examples of this are to be found in the humanities, the fine arts, music and commerce. Even for senior level teachers, access to a university career involves few formalities.

As a rule, the candidate sends a letter of application to the university of his choice, while universities, in which posts have fallen vacant, circulate details of the vacancy to the others. They thus hope to attract post-graduate students, holding a Master's degree, and often preparing a doctoral thesis.

The novice teacher very often begins as an instructor. When he has acquired some experience, taken further training and proved his teaching ability, he is promoted to assistant professor, then to associate professor; finally he is appointed as full professor. Students holding first university degrees are often required to put in some teaching or to direct research work. At the same time, they may continue to study for a higher degree, or carry out research on their own account (1).

A post may often be offered and accepted through a simple exchange of letters. The full probationary period generally lasts seven years, during which time the appointment is renewable from year to year. If the candidate is already a doctor, it is more and more usual for him to begin his teaching career as assistant professor. He normally has to wait five years to become an associate professor, and seven more years to be appointed full professor.

In 1962/63 the percentage of teachers holding doctorates in university faculties and colleges offering courses of at least four years were as follows: 78 per cent of professors, 61 per cent of associate professors and 42 per cent of assistant professors (see table D). In 1966/67 the percentages were slightly smaller, except in the category of professors (see table E).

II. Trends in numbers of teachers and students in higher education

The data used allow only two main groups of teachers to be distinguished, and not three. The first group includes all teachers of at least the level of instructor; the second, all teachers or assistants below that level (junior instructional staff): most of the latter are students who have done very well in their first university examinations. This situation normally arises in institutions offering studies leading to a degree-credit. There is also another category - that of "other instructional staff". This includes teachers who fit into neither of the two main groups and who are assigned to other specific teaching tasks (see note (b) of table I in annex).

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(1) World Survey of Education, UNESCO, Volume IV.

1. Student/teacher ratios and numbers

For the period 1955-1967, tables I and I bis in annex give a breakdown for the teaching staff by length of service. They also estimate the total number of staff on a full-time basis, according to which a part-time teacher is given the value of one-third of a full-time teacher. Tables II and II bis deal with the same period for students and it has therefore been possible to calculate both the growth rate of numbers of students and teachers and the trends in student/teacher ratios from 1955 to 1967 (see table A).

During this 13 year period, the total number of students has multiplied by 2.5. Taking account of their small numbers at the beginning of this period, the number of students following courses not leading to a degree-credit have grown much more rapidly than those studying for a degree-credit. In 1967 they reached the index 379 (1955 = 100) compared with 243 for the other category of students - this being estimated on a full-time basis. In the same period the number of teachers more than doubled (index 209) showing a slower growth rate than that for students, as can be seen from the following table:

Table A

Student/teacher ratios (a)

	Full-time and part-time				Equivalent to full-time			
	1955	1960	1965	1967	1955	1960	1965	1967
Study for a degree-credit								
Students/total number of teachers	11.7	12.2	12.9	13.3	13.2	13.5	14.7	15.2
Students/"instructor" or above	13.4	14.2	15.2	15.6	14.0	14.5	15.8	16.3
Students/lower level teachers	88.3	85.3	86.3	88.2	212.2	202.5	211.6	214.6
Total in higher education	10.2	10.8	11.6	12.1	11.3	11.8	12.9	13.5

Source: Tables I, I bis, II, II bis in annex.

Note: (a) Taking account of the different sources of the data for students and teachers (see notes (b) to table I and (a) to table II in annex) no significance could be attached to any supplementary ratio for non-degree-credit studies.

The different ratios when considered show a slow deterioration of the student/teacher ratio.

2. Average annual growth rates

Table B confirms the results shown in the previous table. On a full-time basis, the average annual rate of growth for teachers from 1955 to 1967 was 6.3 per cent while that for students was 7.9 per cent.

3. Structural changes in the teaching staff

Where we have been able to analyse the composition of the teaching staff in the sector of studies leading to a degree-credit, it appears that there has been little change in the period under consideration. In 1955, 93.8 per cent were of instructor level or above. In 1967 these teachers represented 93.2 per cent of the total number of teachers (on a full-

Table B

Average annual growth rates of teachers and students between 1955 and 1967

(in percentages)

	Full-time and Part-time						Full-time equivalent					
	Studies for a degree-credit		Studies not for a degree-credit		Total in higher education		Studies for a degree-credit		Studies not for a degree-credit		Total in higher education	
	Teach.	St.	Teach.	St.	Teach.	St.	Teach.	St.	Teach.	St.	Teach.	St.
Instructor or above	6.2						6.3					
Junior instructional staff	7.5						7.6					
Total	6.4	7.5					6.4	7.4				
"Other instructional staff"			5.9	11.6					5.8	11.7		
Overall total					6.3	7.8					6.3	7.9

Sources: Tables I, I bis, II, II bis in annex.

time basis). Moreover in the whole teaching body (including teachers assigned to courses other than those leading to a degree-credit) the number of "other instructional staff" had slightly declined from 17.4 per cent of the total number of teachers in 1955 to 16.5 per cent in 1967.

4. Breakdown of numbers of teachers and students by main fields of study

Table C gives a breakdown by field of study and category of professors in the different faculties and 4-year colleges in 1963. It shows that "professors" then represented 27 per cent of the total number of teachers, a percentage confirmed in table D in a different breakdown of staff (also for 1963).

Unfortunately, it has not been possible to show the corresponding data for students.

III. Composition of the teaching staff

There are nearly 2,500 institutions of higher education in the United States. They apply widely differing criteria for recruitment and nomination. This clearly makes for great flexibility in coping with any teacher shortage. To overcome existing shortages, recourse has already been had to employing "temporary" women staff, and holders of Master's Degrees (M.A.) who are preparing for their Doctorates (Ph.D.) for a determined period. Use has also been made of foreign teachers as visiting lecturers and visiting professors for one or more years.

A certain number of secondary level teachers have also been recruited. It would, however, be increasingly difficult for a teacher after several years' teaching in a secondary institution to gain a university post. This trend is therefore declining.(1) The percentage of teachers with doctorates shown in tables D and E partly reflects the flexibility of recruitment.

1. Proportion of women teachers in higher education

Professor Henry H. Remark(1) observes that although in theory academic careers are equally open to teachers of both sexes, there is in practice a certain discrimination against women because they cannot be counted on to stay in the profession. This is also used as a pretext for maintaining certain differences in salary scales. It should further be noted that the percentage of women teachers in American universities has not increased, and may even have diminished, over the last 30 years, whereas the percentage of women students has steadily grown. It is mainly the better American universities which are free of discrimination in this respect.(1)

The US Office of Education(2) states that, in spring 1963, there were 24,642 women teachers and 113,560 male teachers in the "teaching faculties" of the universities and colleges providing a complete four-year course. This means that the proportion of women teachers was 18 per cent.

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(1) Henry H. Remark: The Recruitment and Training of University Teachers, (IAUPL).

(2) Teaching Faculty in Universities and Four-year Colleges, Spring 1963, Appendix C, table 1 (US Office of Education).

Table C

Breakdown by field of study and level of total number of teachers (Spring 1963)

(University faculties and 4-year colleges)

	Total	Professors	Other teachers (h)	% of professors	Division by fields
Pure science (a)	19,470	6,127	13,343	31	14
Technology (b)	9,497	2,879	6,618	30	7
Medical sciences (c)	18,395	5,465	12,930	30	14
Agriculture	2,986	1,124	1,862	38	2
Humanities (d)	29,045	6,796	20,729	23	21
Education (e)	16,998	4,020	12,978	24	12
Fine arts	13,361	2,746	10,615	21	10
Law	1,457	986	471	68	1
Social sciences (f)	23,957	6,604	17,353	28	18
Others (g)	1,946	286	1,660	15	1
Total	135,592	37,033	98,559	27	100

Source: Teaching Faculty in Universities and Four-year Colleges, Spring 1963, pp.62 and 63 (US Office of Education).

Notes:
(a) Mathematics and physics.
(b) Engineering Schools.
(c) Biology and health.
(d) Foreign languages, philosophy, psychology, religion and theology, English and journalism.
(e) Education and physical education.
(f) Commerce, social sciences.
(g) Domestic economy.
(h) Associate professors, assistant professors, instructors and others.

In 1962-63 the breakdown of teachers by sex was as follows:

Table D

Distribution of teachers by sex and level, 1962-63

	Absolute figures	Percentages	Holders of doctorates		Women teachers	
			Nos	%	Nos	%
Professors	37,512	27.1	29,108	78	2,932	8
Associate professors	32,840	23.8	20,105	61	4,959	15
Assistant professors	40,361	29.1	16,908	42	8,341	21
Instructors	22,430	16.1	2,159	10	6,548	29
Others	5,060	3.9	1,669	33	1,863	37
Total	138,203	100	69,949	51	24,643	18

Source: Teaching Faculty in Universities and Four-year Colleges, Appendix C, table I, (US Office of Education).

The reader will note that the total figure for teachers in 1962-63 (138,203) is much below the figure indicated in table I in annex. The differences are, of course, partly due to the exclusion of the two-year colleges from the figures, but also to the omission of certain other higher educational institutions which may be deemed important.

Another breakdown by sex is available for Autumn 1966 for almost the whole teaching staff in higher education (see table E).

Table E

Distribution of teachers by sex and level in 1966-67

Grades	All levels				Of whom doctors		
	Total	Men	Women	% of women	Men	Women	% of doctorates in each grade
Dean	4,036	3,679	357	9	2,662	202	71
Professor	65,642	59,730	5,912	9	46,136	4,195	73
Associate professor	59,724	50,811	8,913	15	31,153	3,547	58
Assistant professor	84,727	67,967	16,760	20	29,011	3,818	39
Instructor	67,085	45,166	21,919	33	2,440	766	5
Other	20,571	14,895	5,676	28	2,697	640	16
Total	301,785	242,248	59,537	20	114,099	13,168	42

Source: Number and Characteristics of Employees in Institutions of Higher Education, Fall 1966 (Office of Education).

It can be seen from the above table that, in 1966:

- women teachers constituted approximately 20 per cent of the whole, but only 9 per cent of the professors and deans;
- among deans and professors, the percentage of men holding doctorates was 77 per cent, the percentage of women 70 per cent.

2. Proportion of part-time teachers

Among the category of instructors and above who represent 93 per cent of the total teaching staff assigned to courses leading to at least a degree-credit, the number of part-time teachers (in "physical" terms) has a little more than doubled between 1955 and 1967. Their proportion to the total number of teachers in the group under consideration has remained at one-third. On a full-time basis, part-time teachers have increased from 11 to 13.9 per cent of the total number of teaching staff under consideration.

IV. Conclusions

Although the numbers in the different categories of teachers have increased very rapidly between 1955 and 1967, their quantitative growth has been less than that of students. The great flexibility in criteria for recruitment among the different categories of staff has certainly helped avoid an even greater widening of the student/teacher ratio though it is considered here only from a quantitative angle and therefore we naturally cannot draw definite conclusions.

ANNEX I

Table I

FULL-TIME AND PART-TIME INSTRUCTIONAL STAFF IN ALL INSTITUTIONS OF HIGHER EDUCATION BY LEVEL

(1955-56 - 1967/68)(a)

YEAR	RESIDENT DEGREE - COURSES								OTHER INSTRUCTIONAL STAFF (b)		TOTAL	
	INSTRUCTOR OR ABOVE				JUNIOR INSTRUCTIONAL STAFF		TOTAL					
	TOTAL		FULL-TIME	PART-TIME								
	ABSOLUTE FIGURES	INDEXES			ABSOLUTE FIGURES	INDEXES	ABSOLUTE FIGURES	INDEXES	ABSOLUTE FIGURES	INDEXES	ABSOLUTE FIGURES	INDEXES
1955/56	197,791	100	135,000	53,000	30,138	100	227,929	100	48,009	100	275,938	100
1956/57	217,000	110	148,000	69,000	33,000	109	250,000	110	51,000	106	301,000	109
1957/58	224,930	114	153,150	71,780	33,918	112	258,848	114	52,316	109	311,164	113
1958/59	237,000	120	160,000	77,000	36,000	119	272,000	119	55,000	115	327,000	119
1959/60	240,914	122	162,292	80,622	38,592	128	281,506	123	56,481	118	337,787	122
1960/61	253,000	128	169,000	84,000	42,000	139	294,000	129	56,000	117	350,000	127
1961/62	264,749	134	177,052	87,697	46,023	153	310,772	136	56,106	117	366,878	133
1962/63	285,000	144	190,000	95,000	49,000	163	334,000	147	61,000	127	395,000	143
1963/64	302,896	153	202,396	100,500	52,646	175	355,542	156	66,307	138	421,849	153
1964/65	329,000	166	220,000	109,000	58,000	192	387,000	170	73,000	152	460,000	167
1965/66	363,000	184	243,000	120,000	64,000	212	427,000	187	83,000	173	510,000	185
1966/67	382,000	193	255,000	127,000	67,000	222	449,000	197	88,000	183	537,000	195
1967/68	406,000	205	271,000	135,000	72,000	239	478,000	210	95,000	198	572,000	207

Source : Projection of Educational Statistics to 1975/76
Projection of Educational Statistics to 1976/77
Projection of Educational Statistics to 1977/78
} U.S. Department of Health, Education and Welfare, Office of Education, **National Center for Educational Statistics.**

Notes : (a) Because of rounding, detail may not add to totals.
(b) Instructional staff for extension, resident non-degree-courses, and instruction by mail, radio or T.V., short courses and individual lessons.

Table I bis

FULL-TIME EQUIVALENT INSTRUCTIONAL STAFF IN ALL INSTITUTIONS OF HIGHER EDUCATION BY LEVEL

(1955/56 - 1967/68) (a)

YEAR	INSTRUCTOR OR ABOVE				RESIDENT DEGREE COURSES		TOTAL FULL-TIME EQUIVALENT		OTHER INSTRUCTIONAL STAFF (b)		TOTAL FULL-TIME EQUIVALENT INSTRUCTIONAL STAFF	
	TOTAL FULL-TIME EQUIVALENT		FULL-TIME	PART-TIME	FULL-TIME EQUIVALENT OF JUNIOR INSTRUCTIONAL STAFF							
	ABSOLUTE FIGURES	INDEXES			ABSOLUTE FIGURES	INDEXES	ABSOLUTE FIGURES	INDEXES	ABSOLUTE FIGURES	INDEXES	ABSOLUTE FIGURES	INDEXES
1955/56	151,322	100	135,000	17,000	10,000	100	161,322	100	34,000	100	195,000	100
1956/57	169,000	112	148,000	21,000	11,000	110	180,000	112	36,000	106	216,000	111
1957/58	176,042	116	153,150	22,892	11,000	110	187,042	116	37,000	109	224,000	115
958/59	182,000	120	160,000	22,000	12,000	120	194,000	120	39,000	115	233,000	119
959/60	187,850	124	162,292	25,558	13,000	130	200,850	124	40,000	118	241,000	124
960/61	196,000	130	169,000	27,000	14,000	140	210,000	130	40,000	118	250,000	128
961/62	206,553	136	177,052	29,501	15,000	150	221,553	137	40,000	118	261,000	134
962/63	221,000	146	190,000	31,000	16,000	160	237,000	147	44,000	129	281,000	144
63/64	235,013	155	202,396	32,617	17,000	170	252,013	156	47,000	138	299,000	153
1964/65	256,000	169	220,000	36,000	19,000	190	275,000	170	52,000	153	327,000	168
1965/66	282,000	186	243,000	40,000	21,000	210	303,000	188	59,000	174	362,000	186
1966/67	297,000	196	255,000	42,000	22,000	220	319,000	198	62,000	182	382,000	196
1967/68	316,000	209	271,000	44,000	24,000	240	339,000	210	67,000	197	407,000	209

Source : See Table I.

Notes : (a) See note (a) Table I.
(b) See note (b) Table I.

Table II

Total full-time and part-time enrolments (a) in all institutions of higher education

(1955 - 1967) (b)

Year (Fall)	Degree-credit				Non-degree-credit				All students			
	Total		Full-time	Part-time	Total		Full-time	Part-time	Total		Total Full-time	Total Part-time
	Absolute figures	Indexes			Absolute figures	Indexes			Absolute figures	Indexes		
1955	2,660,000	100	1,857,000	803,000	151,000	100	60,000	91,000	2,811,000	100	1,917,000	894,000
1956	2,928,000	110	2,020,000	908,000	168,000	111	67,000	101,000	3,095,000	110	2,087,000	1,009,000
1957	3,047,373	114	2,077,000	970,000	176,000	117	73,000	103,000	3,224,000	114	2,150,000	1,073,000
1958	3,236,414	121	2,215,000	1,022,000	184,000	122	76,000	108,000	3,420,000	121	2,291,000	1,130,000
1959	3,377,273	127	2,314,000	1,063,000	194,200	129	80,000	114,000	3,571,000	127	2,394,000	1,177,000
1960	3,582,726	135	2,466,000	1,117,000	206,000	136	85,000	121,000	3,789,000	135	2,551,000	1,238,000
1961	3,860,643	145	2,714,000	1,147,000	186,483	123	77,000	109,000	4,047,000	144	2,791,000	1,256,000
1962	4,174,936	157	2,902,101	1,272,835	229,000	152	95,000	134,000	4,904,000	157	2,997,000	1,407,000
1963	4,494,626	169	3,068,469	1,426,157	271,241	180	112,000	159,000	4,766,000	169	3,180,000	1,585,000
1964	4,950,173	186	3,417,796	1,532,377	329,847	218	137,000	193,000	5,280,000	187	3,554,000	1,725,000
1965	5,526,325	208	3,910,848	1,615,477	394,539	261	163,000	231,000	5,921,000	211	4,074,000	1,846,000
1966	5,885,000	221	4,230,000	1,655,000	505,000	334	208,000	296,000	6,390,000	227	4,438,000	1,951,000
1967	6,348,000	239	4,560,000	1,788,000	564,000	374	233,000	331,000	6,912,000	246	4,793,000	2,119,000

Source: Projections of Educational Statistics to 1975-76)
Projections of Educational Statistics to 1976-77 (US Department of Health, Education and Welfare, Office of Education, National Center for Educational Statistics.
Projections of Educational Statistics to 1977-78)

Notes: (a) Resident and extension enrolment; does not include:
1) adult education (degree-credit or non degree-credit courses);
2) degree-credit and non degree-credit courses by mail, television or radio;
3) short courses;
4) individual lessons only.

(b) See note (a) table I.

Table II bis

Full-time equivalent of total full-time and part-time enrolments (a) in all institutions of higher education
(1955 - 1967) (b)

Year (fall)	Degree-credit		Non-degree-credit		All students	
	Total	Indexes	Total	Indexes	Total	Indexes
1955	2,122,000	100	86,000	100	2,208,000	100
1956	2,319,000	109	96,000	112	2,415,000	109
1957	2,397,000	113	102,000	119	2,499,000	113
1958	2,552,000	120	106,000	123	2,658,000	120
1959	2,665,000	126	112,000	130	2,777,000	126
1960	2,835,000	134	119,000	138	2,954,000	134
1961	3,092,000	146	108,000	126	3,200,000	145
1962	3,322,000	156	133,000	155	3,455,000	156
1963	3,539,000	167	157,000	183	3,696,000	167
1964	3,924,000	185	191,000	222	4,115,000	186
1965	4,443,000	209	228,000	265	4,671,000	212
1966	4,776,000	209	292,000	340	5,068,000	229
1967	5,150,000	243	326,000	379	5,476,000	248

Source: See table II.

Notes: (a) Resident and extension enrolment.
(b) See note (a) table I.

FRANCE

I. Criteria for the recruitment and promotion of teaching staff in university type institutions

The "Loi d'orientation de l'enseignement supérieur" (Outline Act on Higher Education) passed in 1968 will involve changes in the criteria for recruiting teaching staff as and when it is applied. The French Ministry of Education is at present working on a new charter for teaching staff in higher education. A single body will be created with a graded structure ranging from "assistants" to "professeurs". Pending the publication of the new charter, various steps have been taken to ease the direct or indirect conditions for the recruitment of teaching staff. The "Doctorat d'Etat", an essential condition for appointment to the top posts in the Faculties of Humanities or Sciences, can now be awarded to candidates who submit a body of individual work, or - and this is a striking innovation - team work, or, naturally, a thesis (which need no longer be supported, as previously, by a complementary thesis).

Whereas, previously, a professor could not be appointed to a Faculty unless he held a Doctorat d'Etat in the corresponding Faculty, the creation of multi-disciplinary universities, and even the prospective replacement of the traditional Faculties by research and teaching units, has led the authorities, pending the publication of a new charter for the teaching staff, to rule that the holder of a Doctorat d'Etat may be assigned to any Faculty, regardless of the Faculty in which his doctorate was conferred. Annex I gives a detailed table of the level of specialisation required of each level of teacher in the five traditional Faculties (Humanities and Social Sciences, Law and Economics, Science, Medical Sciences, Pharmacy). Very often, an academic career begins with a post of "assistant". "Assistants" and "maîtres assistants" in the Faculties of Humanities and Sciences are largely recruited from secondary school teachers who have passed the highest competitive recruitment examination for that grade, the secondary "agrégation". Since most "agrégés" have qualified from a Teacher Training College (and not from a University Faculty), which they have entered by competitive examination, they very soon become members of the higher education teaching staff. A Science Faculty, in particular, may, however, appoint as "assistant", the holder of a Master's degree ("maitrise"), awarded after four years of higher education. There is very little mobility among university teaching staff. Furthermore, until recently there were very few teachers without the officially required qualifications or foreign teachers, since their status as "professeurs associés" was hardly attractive (annual contracts, obligation to teach full time, etc.). Following the change of heart which inspired the Outline Act "professeurs associés", whether French or foreign, will have a more stable situation (two-year contracts, indefinitely renewable) socially and economically identical with that of established staff of the same grade, as well as being able to teach part time only. "Professeurs associés", however, may not amount to more than 5 per cent of established staff. Finally, still with the same idea of bringing the universities closer into line with the real needs of training, university institutions are now free to recruit, within the limits of their available appropriations, (the salaries of the other teachers mentioned above being borne by the State), qualified staff to meet their special needs, who need not necessarily be French nationals or hold specified university degrees.(1)

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(1) Source: Educational Policy and Planning - France, OECD, Paris (to be published in 1971).

II. Trend of numbers of university teachers and students

The available statistics allow the quantitative trend to be analysed for university teachers only. As a general rule only the public universities are taken into account. A substantial proportion of students in the (private) Catholic Faculties are also enrolled in the State Faculties which are alone authorised to grant recognised degrees. In 1958-59, 7,289 students out of a total of about 13,000 enrolled in the Catholic Faculties were in this position. Although they generally attend the classes of teachers who are not included in our statistics, their percentage of the total number of students is so small that the margin of error which they introduce into this study may be regarded as negligible.

1. Student/teacher ratios and numbers

The figures used as a basis for tables I and II in annex have been taken from the monthly statistical bulletins of the Central Statistical Service of the Ministry of Education and, in particular, from the reports published by the Documentation and Information Bureau of that Service.

The following student/teacher ratios for the period 1957-1967 (table A) have been calculated on the basis of the numbers shown in those tables.

Table A

Student/teacher ratios in 1957 and 1967 by level of teaching staff (university-type higher education)

Field of study		S/SL	S/ML	S/JL	S/SL+ML	S/total
Pure science	1957	170.4	127.5	44.5	72.9	27.6
	1967	209.5	101.9	17.5	68.6	13.9
Medical sciences	1957	53.7	70.5	47.3	30.5	18.5
	1967	90.1	50.1	15.1	32.2	10.3
Humanities and social sciences	1957	188.9	174.5	197.0	90.7	62.1
	1967	416.7	213.7	60.2	141.3	42.2
Law and economics	1957	128.8	258.5	256.5	86.0	64.4
	1967	261.8	298.4	103.4	139.5	59.4
Average ratios	1957	112.8	127.1	73.3	59.8	32.9
	1967	207.9	118.2	28.4	75.4	20.6

2. Annual average growth rates of university enrolments 1957-1967

These rates, calculated from tables I and II in annex II, are summarised in table B below:

Table B

Annual average growth rates in numbers of teachers and students in university higher education, by field of study and level of teaching staff (1957-1967)

(in percentages)

Field of study	Teaching staff				Students
	SL	ML	JL	Total	
Pure science	7.5	12.0	20	17.2	9.4
Medical sciences	2.0	11.2	21	14.0	7.5
Humanities and social sciences	4.0	10.4	27	17.1	12.7
Law and economics	4.2	10.2	22	12.7	11.8
Total	4.0	11.3	22	15.8	10.6

The preceding table shows that the percentage increases in middle or junior level staff in general and in pure science and medical sciences in particular exceeded the corresponding percentage increases in student numbers. In the humanities, law and social sciences, it was only the very important role played by junior level teaching staff that enabled the overall growth rate in numbers of teachers to outpace the very rapid rise in numbers of students.

3. Structural changes in the teaching staff by field of study

These changes are summarised in table C below.

This table clearly shows the steep decline in the percentages of senior and middle level staff in the various fields, and the consequent large increase in the percentage of junior level teachers. Senior level staff showed the lowest rate of growth, except in science faculties.

Table C

Structural changes in the university teaching staff as a whole

(as percentage of total staff)

Field of study		SL	ML	JL
Science	1949/50	11.8	31.2	57.0
	1957/58	16.2	21.6	62.2
	1967/68	6.7	13.7	79.6
Medical sciences	1957/58	34.5	26.3	39.2
	1967/68	11.4	20.6	68.0
Humanities and social sciences	1949/50	43.8	30.3	25.9
	1957/58	32.9	35.6	31.5
	1967/68	10.1	19.8	70.1
Law and economics	1957/58	50.0	25.0	25.0
	1967/68	22.7	19.9	57.4
Others	1967/68	1.7	14.7	83.6

III. Composition of teaching staff in university-type higher education

In 1961 there were 16 universities in France. In 1967 the number had risen to 2[illegible]. To meet the growing demand for teachers and auxiliary staff and to cope with basic chronic shortages, various types of teachers were called on. The Ministry of Education stated that "the teacher shortage primarily affects the humanities and law at 'maîtres de conférence' level."

"It takes almost ten years to prepare a doctoral thesis for presentation at a State university, and university staffing requirements grow faster than the awards of doctorates during this period."

"The same is true of the law faculties, where the annual 'concours d'agrégation' do not provide enough candidates to fill the vacancies."

"Although the overall situation is better in the science faculties, it still remains difficult in mathematics and in certain subjects taught in the university institutes of technology: chemical engineering, civil engineering, data processing and mechanical engineering."

"Staffing requirements in these subjects have increased substantially in recent years, whereas possibilities of recruiting qualified teachers have remained limited" (1).

1. Percentage of unqualified teachers

Teachers who do not have the requisite qualifications for the posts they hold are classified as "unqualified". They must, however, have given proof of their teaching ability, or have published works on the basis of which they have either been entered on the official register ("liste d'aptitude") of persons qualified to teach in higher education (in the case of staff holding posts as "professeur" or "maître de conférence"), or have been appointed as "délégués" to carry out the duties of "maître-assistant". About 15 per cent of "professeurs" and "maître de conférence", and about 30 per cent of "maîtres-assistants" are unqualified in this sense.

However, the figures in the preceding tables clearly show that the number of university teachers has increased faster than the number of enrolments. Thus, although shortages still exist, they are being reduced, at any rate in strictly quantitative terms.

2. The expanding role of "assistants" in meeting the increase in staffing requirements

Since 1960, the relatively rapid growth of the French university teaching body was achieved mainly by recruiting junior level teachers, especially "maîtres-assistants" (2). The role of "assistants" and "maîtres-assistants" from the ranks of secondary school teachers seems to have declined. This implies that "young teachers beginning a university career have rarely had any teacher training (3), although they may hold excellent qualifications in their specialised fields".

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(1) Answers to "complementary questions", item 2.

(2) In this connection, see Section II (2): Annual average growth rates in numbers of teachers by field of study.

(3) Since the courses preparing candidates for the competitive examination of "agrégation" for teaching posts in secondary education do not include any real training in teaching [except for the minority of agrégés who have prepared for this examination in an "école normale supérieure" (higher teachers' training college) who receive a better initiation into problems of teaching their special subject], the training in teaching referred to here can only have been acquired "on the job" in secondary schools.

3. Extent to which teaching loads have increased

Table D below (Ministry of Education report for 1967) clearly shows the extent to which teaching loads have increased as a result of staff shortages.

"This table shows the number of hours of overtime done by teachers in 1967-68. About half the hours for theoretical courses and a quarter of those for practical courses are done by "professeurs" and "maîtres de conference". The rest are done by "maîtres-assistants", "professeurs du second degré", or other individuals who are highly qualified in their profession but are not members of university staffs".(1)

Table D

Additional teaching loads (in hours) in the academic year 1967-68

	Theoretical courses	Directed study and practical work
Law and economics faculties	45,825	51,900
Humanities and social science faculties	49,525	148,475
Science faculties	67,575	78,425
Faculties of medicine and pharmacy	17,500 (a)	17,575 (a)
Political science institutes (b)	5,375	8,275
Business management institutes	7,075	10,950
University institutes of technology	13,925	70,200
Advanced vocational training institutes (c)	16,375	9,750
Engineering schools (d)	26,025	29,900
Other institutes	38,400	36,200

Source: Ministry of Education. Answers to "complementary questions".

Notes:
(a) Outside Paris only - No overtime is necessary in Paris.
(b) Outside Paris only - The "Fondation nationale des sciences politiques" in Paris has its own independent budget.
(c) Outside Paris only - In Paris this training is provided by the "Conservatoire national des arts et métiers".
(d) Outside Paris only and in schools with the status of institutes, faculties or universities.

4. Part-time teachers

No breakdown between part-time and full-time teachers could be made from the data available.

It has, however, been ascertained from the answers to the "complementary questions" that:

"Table I in annex covers all teachers both full-time and part-time.

"It should be noted, however, that part-time teachers are found only in faculties of medicine. They are registered practitioners not integrated when the teaching hospitals were reformed, and who thus have only teaching duties in the university.

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(1) Answers to "complementary questions", item 5.

"This category covers 30 per cent of the "professeurs" and 20 per cent of the "maîtres de conférence" in medical faculties, i.e. 256 "professeurs" and 200 "maîtres de conférence".

"The legislation governing the reform of the teaching-hospital system states that any member of the staff of a teaching hospital shall divide his time between teaching, practising medicine, and research, or must be able to consider teaching as accounting for about one-third of his normal activity."

5. Part played by women teachers

In its answers to the "complementary questions", the French Ministry of Education provides details on the percentages of women teachers currently employed in higher education, and this information is summarised in table E below.

It was pointed out that:

"1) As the administration of "assistants" is decentralised (science, medical sciences, pharmacy), percentages could not be established for this category of teachers."

"2) The department has no statistical data that would enable it to ascertain the percentage increase in women teachers in higher education. However, it can be assumed that the proportion has been increasing since 1945." (1)

Table E

Percentages of women teachers currently employed in university higher education

Categories / Faculties	Professeurs	Maîtres de conférence	Maîtres-assistants 1st class	Maîtres-assistants 2nd class	Chefs de travaux	Assistants
Humanities	7	11	20	29		38
Law	3	8	32	30		30
Sciences	4	13	28	21		
Medical sciences and pharmacy	1	3			29	

IV. Conclusions

The number of teachers has increased faster than the number of enrolments. Student/teacher ratios, which were very high at the beginning of the period, have decreased appreciably in all fields. During the period in question they were cut by almost one-half in science and medical sciences and by about one-third in the humanities and social sciences.

The improved student/teacher ratio in all fields of study is largely due to the fast rate of increase in the number of junior level teachers, whereas the number of senior level staff increased far more slowly than that of students in all cases. In 1967-68 the overall student/teacher ratio was still high, since it averaged around 21 for university education as a whole.

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(1) Answers to "complementary questions".

ANNEX I

Levels of specialisation of teachers

(Answers to the "complementary questions" provided by the Ministry of Education).

Assistants

In theory	In practice
Faculties of law and economics	
Unspecified	At least a "licence" in law or economics (1)
Faculties of medicine	
"Docteur en médicine"	idem.
Science faculties	
"Licence ès-sciences" (2) with the necessary certificates qualifying holders to study for a "doctorat d'Etat"; holders of a "diplôme de docteur-ingénieur" (3); engineers (3) with the necessary certificates qualifying holders to study for a "diplôme de docteur-ingénieur".	"agrégés de l'enseignement du second degré"; "docteurs d'Etat", "docteurs du 3ème cycle", holders of a "licence" who also have engineering qualifications, or the DES (4), DEA (5), CAPES (6), CAPET (6).

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(1) Course of study lasting four years.

(2) The "licence ès-sciences" or "ès-lettres" takes at least three years of study.

(3) The degree of "ingénieur" usually takes five years (two years of preparation for the competitive examination for entrance into the "école d'ingénieurs" and three years for the "diplôme d'ingénieur". At least one more year of study in the faculty is required to obtain the "diplôme de docteur-ingénieur".

(4) The "diplôme d'études supérieures" used to take one year of study (after three years for the "licence ès-sciences" or "ès-lettres"), and qualified the holder to prepare for the competitive examination of "agrégation de l'enseignement du second degré". This diploma was abolished in 1966, a "maîtrise en lettres" or "en sciences" requiring four years of study having been introduced as an alternative to the three-year "licence" course. The "maîtrise" qualifies its holder to sit for the "agrégation".

(5) The "diplôme des études approfondies", the first phase of initiation into research for the "doctorat de troisième cycle", which begins after the "maîtrise".

(6) The "certificat d'aptitude au professorat de l'enseignement secondaire", a competitive examination taken after one year of study after the "licence". Candidates obtaining the "licence" do a one-year practical training course, after which they are awarded a "certificat d'aptitude".

Faculties of humanities

"Licence ès-lettres" (1) and the DES (2) or equivalent or higher qualifications, or graduates from the "école nationale des langues orientales vivantes", and the "école pratique des hautes études", or holders of a "doctorat d'université" in the humanities.	idem. or "agrégés de l'enseignement du second degré".

Chefs de travaux pratiques

Faculties of pharmacy and medicine

"Docteurs en pharmacie", "docteurs ès-sciences", "docteurs en médecine" or "assistants titulaires" who have taught at this level for at least three years and have been officially recognised as qualified to give this type of instruction (name entered on one of the "listes nationales d'aptitude").	idem.

Maîtres-assistants

Faculties of law and economics

"Docteurs en droit, sciences économiques ou politiques" who have worked as "assistants" or "chefs de travaux pratiques" for at least two years, or have been teaching on the basis of three hours per week and have been officially recognised as qualified to give this type of instruction (name entered on one of the "listes nationales d'aptitude").	idem.

Faculties of science, humanities and social sciences

"Docteurs ès-lettres", "docteurs ès-sciences", "docteurs ingénieurs", "agrégés du second degré", "docteurs du 3ème cycle", "assistants" who have taught at this level for at least three years and have been officially recognised as qualified to give this type of instruction (name entered on one of the "listes nationales d'aptitude").	idem.

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(1) See note (2) on previous page.

(2) See note (4) on previous page.

	Maîtres de conférence
Faculties of law and economics	
"Agrégation de droit" (1)	idem.
Faculties of humanities, human sciences and science	
"Doctorat d'Etat" and official recognition as a qualified higher education teacher (name entered on the "liste d'aptitude" known as the "restricted list".	idem.
Faculties of medicine and pharmacy	
Agrégation de médecine (1)	idem.
Agrégation de pharmacie (1)	idem.
	Professeurs titulaires
Recruited:	
- either from "maîtres de conférence" or "maîtres de conférence agrégés" who have taught at this level for at least two years;	
- or from holders of the "doctorat d'Etat" who have taught for at least two years in a higher educational establishment.	The second case is very rare.

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(1) This "agrégation" is a competitive recruiting examination for teaching at the highest levels in the three faculties concerned. Candidates sitting for this examination are usually older than those taking the "agrégation de l'enseignement du second degré" (humanities or sciences). This is explained by the fact that the diplôme required for teaching at the highest levels in the humanities and science faculties is the "doctorat d'Etat", for which candidates do not require to have sat the "agrégation de l'enseignement du second degré". But for the faculties of medicine, pharmacy, and law and economics, the "agrégation" is a necessary qualification for teaching at the highest levels.

ANNEX II

Table I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
(FULL-TIME AND PART-TIME) (a)

SL = Professors
ML = Lecturers and readers
JL = Assistant Teachers, Assistants

Field of special-isation	PURE SCIENCE				MEDICAL SCIENCES				HUMANITIES AND SOCIAL SCIENCES				LAW AND ECONOMICS				OTHER (I.U.T.)(b)				TOTAL			
Year	SL	ML	JL	T	SL	ML	JL	T	SL	ML	JL	T	SL	ML	JL	T	SL	ML	JL	T	SL	ML	JL	T
1949/50	194	509	928	1 631					224	115	132	511	22	41	-	-								
1957/58	312	417	1,196	1,925	717	546	813	2,076	266	288	255	809	261	130	131	522					1,556	1,381	2,395	5,332
1960/61	394	674	2,564	3,632	749	638	1,015	2,402	293	360	497	1,150	285	192	240	717					1,721	1,864	4,316	7,901
1961/62	425	742	3,246	4,413				3,830	300	386	685	1,371	294	200	293	787								10,401
1962/63	468	796	3,961	5,225	749	1,149	2,708	4,606	309	429	864	1,602	310	220	364	394					1,836	2,594	7,897	12,327
1963/64	498	878	4,731	6,107	835	1,278	3,798	5,912	330	502	1,138	1,970	330	251	528	1,109					1,993	2,909	10,195	15,098
1964/65	532	938	5,466	6,936	831	1,406	3,998	6,235	336	556	1,520	2,412	337	273	669	1,279					2,036	3,173	11,653	16,862
1965/66 (c)	560	1,074	6,375	8,009	850	1,490	4,225	6,565	348	608	1,768	2,724	356	298	772	1,426					2,114	3,470	13,140	18,724
1966/67 (c)	583	1,147	6,737	8,467	848	1,525	4,668	7,041	373	675	2,184	3,232	365	314	863	1,542	1	22	68	91	2,170	3,683	14,520	20,373 (d)
1967/68	626	1,287	7,496	9,409	878	1,578	5,226	7,682	396	772	2,739	3,907	392	844	993	1,729	76	962	353	422	2,299	4,043	16,807	23,149

Source: Ministry of Education "Informations statistiques" and "Service central des statistiques et de la conjoncture" Office of documentation and information.

Notes : (a) Associate teachers, foreign lecturers in humanities, staff responsible for practical work in law, monitors and staff in "grands établissements" in higher education are not included.

(b) Instituts universitaires de technologie.

(c) Breakdowns of total enrolments in 1965/66 and 1966/67 have been provided by "Notes rapides d'information" No. 17-1968.

(d) These figures concern general total, I.U.T. excluded.

(e) The figures come from "Service central des statistiques et de la conjoncture".

Table I bis

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
(FULL-TIME AND PART-TIME)

Field of specialisation / Year	PURE SCIENCE					MEDICAL SCIENCES				HUMANITIES AND SOCIAL SCIENCES						LAW AND ECONOMICS				TOTAL			
	SL	ML	JL	TOTAL		SL	ML	JL	T	SL	ML	JL	TOTAL			SL	ML	JL	T	SL	ML	JL	T
1949/50	62	122	78	85	100					84	54	52	63		100	84	32						
1957/58	100	100	100	100	118	100	100	100	100	100	100	100	100			100	100	100	100	100	100	100	100
1960/61	126	162	214	188	222	104	117	125	116	110	125	195	142	100		109	148	183	137	111	135	180	100
1961/62	136	178	271	230	271				184	113	134	269	169			113	154	224	151				195
1962/63	150	191	331	271	320	104	210	333	222	116	149	339	198			119	169	278	171	118	188	330	231
1963/64	160	211	396	317	374	116	234	467	285	124	174	446	243			126	193	403	212	128	211	426	283
1964/65	171	225	457	360	425	116	256	492	300	126	193	596	298			129	210	510	245	131	230	487	316
1965/66	179	258	533	416	491	119	273	520	316	131	211	693	337	237		136	229	589	273	136	251	549	351
1966/67	187	275	563	440	519	118	279	574	339	140	234	856	399		632	140	242	659	295	139	267	606	382
1967/68	201	309	627	489	577	122	289	643	370	149	268	1,074	483			150	265	758	331	148	293	702	434

Source and notes: see table I.

Table II

Student enrolments in university institutions

Field of specialisation / Year	Pure science		Medical sciences		Humanities and social sciences		Law and economics (a)		Total		Total enrolled and unregistered st.
	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes	Total
1957/58	53,177	100	38,469	100	50,245	100	33,609	100	175,500	100	
1958/59	60,063	113	39,090	102	54,383	108	32,565	97	186,101	106	
1959/60	65,506	123	39,389	102	57,395	114	32,473	97	194,763	111	
1960/61	68,062	128	39,284	102	62,395	124	33,634	100	203,375	116	214,672
1961/62	75,282	142	45,503	118	73,376	146	38,449	114	232,610	133	244,814
1962/63	88,595	167	47,991	125	88,734	177	45,468	135	270,788	154	282,222
1963/64	100,498	189	50,557	131	103,484	206	53,650	160	308,189	176	326,311
1964/65	109,628	206	55,159	143	119,017	237	65,131	194	348,935	199	367,701
1965/66	121,539	229	61,790	161	133,216	265	77,114	229	393,659	224	413,756
1966/67	124,721	235	67,720	176	152,916	304	88,030	262	433,387	247	459,470
1967/68	131,164	247	79,100	206	164,998	328	102,642	305	477,904	272	508,119

Source: Monthly publications: "Informations statistiques du Ministère de l'Education nationale".

Notes: (a) These totals include students of "capacité en droit" who are not university-type students.

GREECE

I. Criteria for the recruitment and promotion of teaching staff

The teaching staff at the Greek universities of Athens and Thessalonika consist of established professors, assistant professors, senior lecturers, lecturers, research supervisors in laboratories and clinics, auxiliary teaching staff, assistants and demonstrators. All senior level teaching staff and research supervisors must have a doctorate (1). To be appointed to a chair in an institute of higher education, a candidate must hold the degree of doctor in the special subjects of the chair, and he must also be the author of published works representing an original contribution to knowledge. An assistant professor (teaching in his own right or as an assistant to an established professor) is, for preference, chosen from among those qualified for professorship.

"To be appointed to a post as senior lecturer (lecturer under the authority of an established professor), a candidate must be qualified: that is to say, in addition to holding a doctorate in the subjects concerned, he must have published a qualifying thesis in the course of a career devoted entirely to teaching, representing an original contribution to knowledge in the special subject he will be called upon to teach. He must also have passed an oral examination on his thesis before a board of professors." Research supervisors are doctors of medicine (1).

Professors are elected by the assembly of established professors. Other staff are appointed by the faculty after proposal by the professor concerned. Staff appointed for a determined period are allowed to engage in activities outside the university if certain statutory conditions are satisfied.

II. Trends in numbers of teachers and students in higher education

A. University education

1. Student/teacher ratios and numbers

The total numbers of university teachers and students are shown in tables I and II in the annex. It has not been possible to include junior level staff in these statistics and this considerably limits their significance.

It would appear that the student/staff ratios in the university sector have considerably increased during the period under review. Taking account of the available statistics, caution must be taken in attempting to compare trends in Greece with those in other countries. The only comparisons likely to be significant at international level are those relating to senior and middle level staff.

For a limited period, however, (1955-61) an estimate of the trends of student/teacher ratios is available. It seems to concern the whole teaching body in higher education (2) and is shown in Table B. Except for the faculties of fine arts and social sciences (where the ratio is very high) the number of students per teacher increased between 1955 and 1961.

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(1) Some of these data are provided by the answers to the "complementary questions".

(2) It is specified on page 172 of the MRP Report/Greece (OECD, 1965) that assistants are included in the quoted figures.

Table A

Student/teacher ratios by field of study and level of staff
(senior and middle level only) 1955 - 1966

Field of study		Student/SL	Student/ML	Student/SL+ML
Pure science and pharmacy	1955	41.5	141.3	32
	1966	103.4	376.1	81.1
Technology and architecture	1955	19.8	34.4	13
	1966	59.2	86.8	55.4
Medical sciences	1955	45.8	26.4	17
	1966	107.6	35.3 (1965)	78.1
Agriculture	1955	9	59.3	8
	1966	47.4	63.6 (1965)	42.7
Humanities	1955	36.1	154.9	29
	1966	92.2	360	73.4
Fine arts	1955	10.5	-	11
	1966	1.4	27.4	14.2
Law	1955	79.6	87.5	63
	1966	17.5	238.8	101.1
Social sciences	1955	59.1	4,552	58
	1966	245.8	1,597.8	213
Total	1955	38.6	76.6	26
	1966	119.6	140 (1965)	(64.2 - 1965)

Source: Tables I and II in annex, official Greek statistics for higher education and Ministry of Co-ordination.

It appears that in general, the supply of teachers is poor, the main reason being poor salaries and conditions of work (1).

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(1) MRP Report/Greece, OECD, Paris, 1965, p.79.

Table B

Trends in student/teacher ratios in university education from 1955 to 1961

Field of study		Number of professors		Student/teacher	
		1955	1961	1955	1961
Pure science	(a)	89	140	6	22
Technology		129	185	9	13
Medical sciences	(b)	182	295	13	14
Agriculture	(c)	94	130	7	9
Humanities	(d)	86	104	26	31
Fine arts		8	12	15	9
Law		71	70	39	58
Social sciences	(e)	74	140	57	57
Total		733	1,076	19	24

Source: Data based on tables 32 and 64 of MRP Report/Greece, OECD, Paris, 1965.

Notes:
(a) and pharmacy.
(b) and dentistry.
(c) and veterinary medicine.
(d) faculties of philosophy and theology.
(e) faculties of economics and commerce, industrial studies and political science.

2. Average annual growth rates in university staff and student numbers between 1955 and 1966

These rates are shown in table C.

Table C

Annual growth rates in universities, 1955-1966

(in percentages)

Field of study	Teachers			Students
	SL	ML	Total SL+ML	
Pure science	4.2	3.6	4.1	13.2
Technology	2.6	-15.5	-0.9	13.4
Medical sciences	2.3	7.2 (a)	5.9 (a)	10.5 (c)
Agriculture	1	17.0 (a)	4.8 (a)	17.4 (d)
Humanities	1	2.0	1.2	10.1
Fine arts	1.7	10.8	4.9	2.4
Law	2.8	0.9	2.0	10.5
Social sciences	0.1		1.3	14.0
Total (b)	1.9	-4.2	0.2	12.9

Notes:
(a) 1955-1965. There would be no point in calculating a growth rate for 1955-1956 owing to changes in statistical methods.
(b) For the period 1955-1965 the rate of increase in the number of teachers of middle level was 6.4 per cent, while in the case of senior and junior level it was 3.1 per cent, and for students 12.3 per cent.
(c) Rate for 1955-1965: 10.4 per cent.
(d) Rate for 1955-1965: 17.8 per cent.

Table D

Structural changes in the composition of teaching staff
in higher education (university and non-university types)
(concerns only SL and ML)

(as percentage of total SL+ML teachers)

Field of study		SL	ML
Pure science and pharmacy	1955	77.3	22.7
	1966	78.4	21.6
Technology and architecture	1955	63.5	36.5
	1966	93.6	6.4
Medical sciences	1955	36.6	63.4
	1966	72.6	27.4
Agriculture	1955	86.8	13.2
	1966	90.1	9.9
Humanities	1955	81.1	18.9
	1966	79.6	20.4
Fine arts	1955	100.0	-
	1966	70.6	29.4
Law	1955	52.4	47.6
	1966	57.7	42.3
Social sciences	1955	98.7	1.3
	1966	86.7	13.3
Total university	1955	66.5	33.5
	1966	79.6	20.4
Education (non-university)	1955	100.0	-
	1966	-	-
Domestic economy (non-university)	1955	65.5	34.5
	1966	100.0	-

The differences in the growth rates for the various levels of teaching staff have led to structural changes in the university teaching body as a whole. However, as we are unable to estimate the proportion of junior level staff, it has seemed preferable to change the normal presentation of the surveys. The trend in the percentages for senior or middle level staff will therefore be found in table D but not figures for junior level staff.

B. Non-university type education

In teacher training colleges and in domestic economy institutions a number of estimates were available. They are summarised in tables I and II in annex. Some lessons can be drawn from them, which are presented in tables E and G on the student/teacher ratio and the annual growth rates.

Table E

Student/teacher ratios

	Education		Domestic economy	
	1955/56	1966/67	1962/63	1966/67
S/SL + ML	14.7	12.4	15.7	8.8

According to the "Mediterranean Regional Project - Greece", the number of students per teacher in teacher training colleges would have, on the contrary, increased between 1955 and 1961 as is seen in table F below.

Table F

Trends in numbers and student/teacher ratios in teacher training colleges 1955-61

	Number of teachers		Students/teacher	
	1955	1961	1955	1961
Teacher training colleges	141	160	11	14
Colleges of physical education	14	14	10	12

Source: Tables 32 and 64 of MRP Report/Greece (OECD, Paris, 1965).

Table G

Average annual growth rates of certain categories of teachers and students in non-university higher education

(in percentage)

Education					Domestic economy				
1955-1966					1962-1966				
SL	Teachers		Total	Students	SL	Teachers		Total	Students
	ML	JL				ML	JL		
2	-12.4	-	2.8	2	12.1	-	-	0.8	-12.7

It will be seen that, contrary to the situation in all the "university" fields, except fine arts, the student/teacher ratio fell during the period under review.

III. Composition of the teaching body

The answers to the "complementary questions" (1) show that there is a considerable shortage of teachers.

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(1) Ministry of Co-ordination, Directorate General I, Directorate for Social Policy. (31st July, 1969).

"The shortage of teachers in higher education, apart from teacher training colleges, amounts at the present time to 40.7 per cent. In particular, in the Faculties of Science the shortage amounts to 45.2 per cent; in Polytechnics 44.5 per cent; in the Humanities and Theology 41.8 per cent; in Law 46.5 per cent; and in the Schools of Agriculture, Forestry and Veterinary Science, 24.6 per cent. In the Faculty of Medicine and the School of Dentistry the shortage amounts to 35.5 per cent. In the Schools of Political, Social and Economic Sciences, (the High School for Economic and Commercial Studies, and the High School for Political Studies, Pantios, the College of Advanced Industrial Studies, Piraeus, and the College of Advanced Industrial Studies, Thessalonika) the shortage is 47.8 per cent. Finally, in the Fine Arts School all teaching chairs are at present occupied.

"It is difficult to determine the exact causes of this shortage. We feel, however, that the main reasons are:

(a) The fact that there is no system of post-university studies in Greece.
(b) The brain drain, which affects high-level scientific personnel.
(c) The fact that private enterprise offers better remuneration in Greece.

There are many indications at the present time that the number of teachers in higher education may shortly increase owing to the large number of young graduates who are returning from abroad."

In order to overcome the shortage the authorities responsible for higher education have sought various remedies.

1. Increase in the number of junior level teachers

The official statistics do not show the number of these teachers. This important method of helping to meet the needs cannot, therefore, be studied here.

Some indications were, however, given in answers to the "complementary questions" which give a very rough idea of the proportion of junior level teachers available to satisfy demand. These answers show that "the auxiliary teaching staff in higher education (lecturers, assistants and demonstrators) increased in 1967 to 1,578. There are 221 teachers at this level in the Science Faculties, 480 in the Polytechnic Schools, 415 in the Medical and Dentistry Faculties, 147 in the Schools of Agriculture, Forestry and Veterinary Science, 150 in the Faculties of the Humanities and Theology, 8 in the School of Fine Arts, 84 in the Faculty of Law, 68 in other high schools (Pantios, High School for Economic and Commercial Studies, the Schools for Advanced Industrial Studies) and 5 at teacher training colleges."

2. The part played by women teachers

The answers to the "complementary questions" showed that "in the course of the university year 1966-67 the proportion of women staff in higher education was inadequate. More precisely, in 1967 there were 30 women (15 professors and 15 lecturers) in higher education and 92 in teacher training colleges, i.e. 4.5 per cent and 31 per cent respectively. These percentages have not changed since 1955."

3. Part-time teachers and overtime

According to UNESCO (1) there were 150 part-time teachers in 1960-61 for a total teaching body of 705, i.e. about 21.3 per cent in "physical" terms.

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(1) World Survey of Education, Volume IV.

The following information has been collected as regards the use of overtime to meet the shortage of staff.

It is not customary in Greece to pay teachers in higher education for any overtime they may do. But a teacher may receive permission to teach a subject other than his own in order to cope with a temporary staff shortage. Teachers thus employed are paid about 30 per cent of the ordinary salary of a university teacher.

In the course of the university year 1966-67 21 per cent out of an approximate shortage of 40 per cent in teaching staff was covered by the overtime system described above.

IV. Conclusions

The trend in the number of senior and middle level teachers in Greece is extremely disappointing (except in the fine arts) when compared with the trend in student enrolments. However, the absence of any information as to the way in which junior staff have helped to meet requirements makes these conclusions less pessimistic. The fact is that in many other countries where it has been possible to make a breakdown of the three levels of teachers it has been found that increased numbers of junior and sometimes middle level staff have sufficed to enable the total teaching body to increase at a rate approximating to the rate of increase in student enrolments.

ANNEX I

Table I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
AND IN A FEW INSTITUTIONS OF HIGHER EDUCATION OF NON-UNIVERSITY TYPE

SL : senior level (a)
ML : middle level (a)

	PURE SCIENCE			TECHNOLOGY			MEDICAL SCIENCES			AGRICULTURE			HUMANITIES			EDUCATION(b)			FINE ARTS			LAW			SOCIAL SCIENCES			DOMESTIC ECONOMY			TOTAL			TOTAL	
																Non university												Non university			University			Non university	Univ. & non Univers.
	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T		
1955/56	51	15	66	66	38	104	64	111	175	66	10	76	73	17	90	195	-	195	10		10	33	30	63	77	1	78				440	222	662	195	857
1956/57	47	17	64	66	40	106	64	127	191	64	11	75	69	20	89	197	-	197	10		10	34	33	67	80	1	81				437	246	683	197	880
1957/58	49	20	69	68	39	107	69	135	204	66	20	86	65	19	84	193	-	193	11		11	38	35	71	76	1	77				440	269	709	193	902
1958/59	47	22	69	67	3	70	77	144	221	68	23	91	62	21	83	203	-	203	12		12	35	34	69	83	4	87				451	251	702	203	905
1959/60	49	25	74	71	1	72	65	152	217	66	21	87	51	25	76	204	-	204	13		13	33	25	58	73	4	77				421	253	674	204	878
1960/61	56	24	80	76	-	76	70	164	234	67	22	89	51	24	75	203	-	203	12		12	38	22	60	74	5	79				444	261	705	203	908
1961/62	57	5	62	78	11	89	74	208	282	75	19	94	54	26	80	192	31	223	8	3	11	39	27	66	64	27	91				449	326	775	223	998
1962/63	56	5	61	79	2	81	70	219	289	55	47	102	57	38	95	217	13	230	9	2	11	39	27	66	67	35	102	19	10	29	432	375	807	259	1,066
1963/64	58	9	67	81	3	84	65	225	290	57	55	112	61	52	113	186	46	232	10	6	16	39	30	69	65	28	93	21	13	34	436	408	844	266	1,110
1964/65	56	21	77	71	15	86	72	231	303	64	60	124	67	56	123	130	103	233	10	6	16	42	33	75	74	15	89	6	29	35	466	427	893	268	1,161
1965/66	54	37	91	83	2	85	88	224	312	71	48	119	74	48	122	212	48	260	10	5	15	41	34	75	68	16	84	15	14	29	489	414	903	289	1,192
1966/67	80 (c)	22	102	88	6	94	82	31 (d)	113	73	8 (e)	81	82	21	103	241	16	265	12	5	17	45	33	78	78	12	90	30	-	30	540	138 (a)	678	295	973

Source : Higher Education Statistics - 1956/1965 and Ministry of Co-ordination - Answers to "complementary questions" (1966/67).

Notes : (a) SL = Ordinary and extraordinary professors. ML = All teachers giving courses (paid or unpaid) and who are not included under SL.
(b) Concerns **teacher** training schools, day nurseries and physical education.
(c) The increase is due to the opening of the University of Patras.
(d) From this year on only "Yphighitis" who are giving courses are included. Previously all "Yphighitis" were included even those who were not giving courses.
(e) From this year on only "Yphighitis" who are giving courses are included. Before this date all teaching staff was included.

COUNTRY : GREECE
PAYS : GRECE
TABLE : I bis (Indexes)
TABLEAU : I bis (Indices)

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS AND IN A FEW INSTITUTIONS OF HIGHER EDUCATION OF NON UNIVERSITY TYPE

PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE ET DANS QUELQUES ETABLISSEMENTS D'ENSEIGNEMENT SUPERIEUR NON UNIVERSITAIRE

Field of specialization/ Branches — Year / Année	PURE SCIENCE SCIENCES PURES	TECHNOLOGY TECHNOLOGIE ARCHITECTURE	MEDICAL SCIENCE SCIENCES MEDICALES	AGRICULTURE	HUMANITIES LETTRES	FINE ARTS BEAUX ARTS	LAW DROIT	EDUCATION	SOCIAL SCIENCES SCIENCES SOCIALES	Domestic Economy Economie Domestique	TOTAL	
								Non univers. Non universitaire		Non univers.	University Universitaire	Univers. and/et non universit.
1955/56	100	100	100	100	100	100	100	100	100		100	100
1956/57	97	102	109	99	99	100	106	101	104		103	103
1957/58	105	103	117	113	93	110	113	99	99		107	105
1958/59	106	67	126	120	92	120	110	104	112		105	106
1959/60	112	70	124	114	84	130	92	105	99		102	102
1960/61	121	73	134	117	84	120	95	104	101		106	106
1961/62	94	86	161	124	89	110	105	114	117		117	116
1962/63	92	78	165	134	106	110	105	118	130	100	122	124
1963/64	102	81	166	147	126	160	110	119	119	117	127	130
1964/65	117	83	173	162	133	160	119	119	114	121	135	135
1965/66	138	82	178	157	136	150	119	133	108	100	136	139
1966/67	155	90	65	107	114	170	124	136	115	103	102	114

Remark : Sources and remarks are the same as for Table I.
Remarque : Les sources et les notes sont les mêmes que celles du tableau I.

Table II

Student enrolments in university institutions and in a few institutions of higher education of non-university type (a)

Field of specialisation / Year	Pure science	Technology & architecture	Medical sciences	Agriculture	Humanities	Education			Fine arts			Law	Social sciences (b)	Domestic economy non univ.	Total	
						Univers.	Non univers.	Total	Univers.	Non univers.	Total				Univers. & non univers.	Univers.
1955/56	2,119	1,309	2,928	593	2,633	139	2,859	2,998	105			2,627	4,552		19,864	17,005
1956/57	2,044	1,450	2,427	740	3,043	118	2,507	2,625	113			3,252	4,714		20,408	17,901
1957/58	2,184	1,667	2,733	785	3,375	107	2,256	2,363	132			3,555	3,523		20,317	18,061
1958/59	1,998	1,854	3,100	878	3,614	114	2,252	2,366	108			3,420	6,999		24,337	22,085
1959/60	2,009	2,142	3,612	1,013	3,456	147	2,603	2,750	106			3,823	7,792		26,703	24,100
1960/61	2,698	2,358	4,075	1,125	3,193	163	2,481	2,644	109			4,088	8,012		28,302	25,821
1961/62	3,381	2,684	4,719	1,208	3,252	184	2,391	2,575	115			4,245	8,438		30,617	28,226
1962/63	4,367	3,080	5,344	1,446	3,441	184	2,798	2,982	116	68	184	4,851	9,282	455	35,432	32,111
1963/64	5,925	3,636	6,181	1,850	4,243	187	2,983	3,170	123	117	240	6,202	11,547	417	43,411	39,894
1964/65	7,556	4,539	8,051	2,388	4,965	301	3,100	3,401	138	132	270	6,853	14,910	372	53,305	49,701
1965/66	7,903	4,566	7,900	3,053	6,250	349	3,064	3,413	134	127	281	7,814	16,494	326	58,000	54,483
1966/67	8,274	5,208	8,824	3,460	7,561	411	3,292	3,703	137	104	241	7,[illegible]82	19,174	264	60,931	64,591

Source: Development of Higher Education, 1950-1967 - Statistical Survey (Greece), OECD, Paris, 1970.

Notes: (a) The non-university institutions included in this table are the same as those on table I.

(b) For a more accurate comparison with statistics on teachers, enrolments in the High School for Industrial Studies in Athens for the years 1955-1957 (1,023; 1,231; 1,276) and enrolments in the High School of Industrial Studies in Thessalonika for 1958 and 1959 (559 and 631) have been excluded from these figures. Teachers and students in the High School of Industrial Studies of Athens are included in social sciences since 1958/59. Those in the High School of Industrial Studies of Thessalonika are included as well, since 1960/61.

Table II bis (Indexes)

Student enrolments in university institutions and in a few institutions of higher education of non-university type

Year \ Field of specialisation	Pure science	Techno-logy & archi-tecture	Medical sciences	Agri-culture	Humani-ties	Education	Fine arts		Law	Social sciences	Domestic economy	Total	
						Univ. & Non-univ.	Univ. & Non-univ.	Univ.			Non-univ.	Univ. & Non-univ.	Univ.
1955/56	100	100	100	100	100	100	100	100	100	100		100	100
1956/57	96	111	83	125	116	88		108	124	104		103	105
1957/58	103	127	93	132	128	79		126	135	77		102	106
1958/59	94	142	106	148	137	79		103	130	154		123	130
1959/60	95	164	123	171	131	92		101	146	171		134	142
1960/61	127	180	139	190	121	88		104	156	176		142	152
1961/62	160	205	161	204	124	86		110	162	185		154	166
1962/63	206	235	182	244	131	99	175	110	185	204	100	178	189
1963/64	280	278	211	312	161	106	228	117	236	254	92	218	235
1964/65	357	347	275	403	189	113	257	131	261	328	82	268	292
1965/66	373	349	270	515	237	114	268	147	297	362	72	292	320
1966/67	390	398	301	583	287	124	230	130	300	421	58	307	380

Source and notes: see table II.

IRELAND

I. Criteria for the recruitment and promotion of teaching staff

The teaching staff of the National University of Ireland consist of professors, lecturers, college lecturers, assistant lecturers, assistants and demonstrators. The University also employs a number of tutors. Only professors and lecturers are permanent members of the university teaching staff. They are appointed by the senate of the university on the recommendation of the faculties and the academic council. All other teachers are on yearly contracts. The renewal of their contracts becomes practically automatic after a probationary period of two years. Neither the professors nor the lecturers are allowed to engage in subsidiary activities.

The University of Dublin has two additional staff grades, i.e. senior lecturer and reader. The higher level staff are normally permanent members (particularly if they have been elected "fellows"). Assistant lecturers and other junior staff are on renewable contracts.

Staffs of establishments providing higher occupational and technical education include heads of departments, assistant heads of departments and senior lecturers in technology who are recruited by advertisement. Most staff are recruited on a full-time basis.

II. Trends in numbers of teachers and students in university education

1. Student/teacher ratios and numbers

Numbers of teachers and students from 1950 to 1964 are shown in the table in the annex. It has not been possible to give a breakdown by field of study. Furthermore, only two types of teaching level are shown: senior staff who include professors and fellows, and other teachers, who include lecturers, assistants and demonstrators. Using this breakdown, three kinds of ratio have been calculated in table A.

Table A

Student/teacher ratios

Year	Student/SS	Student/others	Student/total teachers
1950	38	19.8	13
1964	61.4	15.9	12.7

Source: Table in the annex.

2. Annual growth rates in numbers of university teachers and students between 1950 and 1964

Between 1950 and 1964 the number of senior teachers increased at an annual average rate of 1.3 per cent, whereas the growth rate for other teachers was 6.5 per cent. If the rate of increase of students (4.9 per cent) is compared with the rate for teachers (5.1 per cent) it is clear that owing to a considerable increase in other category teachers, the total number of teachers has increased slightly faster than the total number of students.

3. Structural changes in teaching staff

On the basis of the table in the annex it is possible to show how the structure of the teaching body has altered. In 1950, senior teachers still represented 34.2 per cent of the total number of teachers. In 1964 they represented no more than 20.6 per cent.

4. Complementary data

Taking account only of full-time university studies, the student/teacher ratio in Irish colleges was probably more favourable in 1938 than in 1964, as is shown in table B.

Table B

	1938/39	1948/49	1955/56	1959/60	1964/65
Full-time staff	294	348	423	497	730
Full-time students	4,978	6,796	6,951	8,653	13,006
Student/staff ratios	16.9	19.5	16.5	17.4	17.8

Source: Commission on Higher Education 1960/67, Vol.II, Chapter 25.

The above figures, whose source is different from that used for table A, show a distinct decline in student/staff ratios in Ireland during the first decade under review, a recovery between 1948 and 1955, and a further slight decline thereafter.

Moreover, the authors of the Commission on Higher Education 1960/67, from which we have taken the above extracts, have endeavoured to take account of the incidence of part-time students and teachers on these ratios. In the case of the students it was assumed that one part-time student represented approximately one-third of a full-time student. In the case of the teachers any attempt at the conversion should be viewed with caution owing to the wide variety of possibilities of posts offered. However, it was considered that five part-time teachers corresponded very roughly to one full-time teacher. The trend in the student/staff ratio in higher education (1) was as shown in table C.

Table C

Student/staff ratios using weighted numbers for the period 1938 to 1964

	1938/39	1964/65
Total number of full-time (or equivalent) teachers	321	808
Number of full-time (or equivalent) students	5,089	13,452
Student/teacher ratios	15.9	16.6

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(1) All colleges: University College Dublin (UCD), University College Cork (UCC), University College Galway (UCG), Trinity College Dublin.

The Commission on Higher Education also gave a number of breakdowns by field of study for 1964-65 on which table D is based:

Table D

Staff and student numbers in higher education by main fields of study in 1964-65 (full-time studies)

	Science	Architecture	Technology	Medical sciences	Agriculture	Humanities	Total
Teachers	171	2	52	100	116	300	741
Students	3,108	73	866	1,516	562	6,751	12,876
Student/teacher ratios	18.2	36.5	16.7	15.2	4.9	22.5	17.4

III. Composition of the teaching body

According to UNESCO (1), in 1960-61 there were 884 teaching staff in the National University of Ireland, St. Patrick's College of Theology, the three university colleges and the University of Dublin. These included 122 women teachers and 301 part-time teachers. They had to teach a total of 11,412 students. This means that the percentage of women teachers was 13.8 per cent, the percentage of part-time teachers 34 per cent, in "physical" terms.

Furthermore in 1959/60 in the eight public and private teacher training colleges there were 132 teachers including 95 women teachers (percentage 72 per cent) and 1,169 students. The student/teacher ratio was therefore 8.9.

IV. Conclusions

Taking an overall and possibly a very approximate view, it seems true to say that during the period 1950-1964 the growth rate in number of senior level university teachers was definitely slower than that of students.

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(1) World Survey of Education, Volume IV.

ANNEX I

Year	Total numbers (a)				Indexes (1950/51 = 100)				Breakdown of teachers in percentages	
	Students	Teachers (b)			Students	Teachers			SL	Others
		SL	Others	Total		SL	Others	Total		
1950/51	7,328	193	371	664	100	100	100	100	34.2	65.8
1951/52	7,228	200	385	585	99	104	104	104		
1952/53	7,515	190	392	582	103	98	106	104		
1953/54	7,696	193	384	577	105	100	104	103		
1954/55	8,083	201	430	631	110	104	116	112		
1955/56	8,118	199	478	677	111	103	129	120	29.4	70.6
1956/57	8,508	199	497	696	116	103	134	123		
1957/58	8,837	198	513	711	121	103	138	126		
1958/59	9,589	199	530	729	131	103	143	129		
1959/60	10,137	203	579	782	138	105	156	139		
1960/61	11,089	212	627	839	151	110	169	149	25.3	74.7
1961/62	11,427	218	708	926	156	113	191	164		
1962/63	12,384	225	773	998	169	117	208	177		
1963/64	13,331	223	827	1,050	182	116	223	186		
1964/65	14,185	231	890	1,121	194	120	240	199	20.6	79.4

Source: Statistical Abstracts of Ireland.

Notes: (a) University level.
(b) Includes full-time and part-time teachers - "senior level staff" includes professors and fellows - "Others" include lecturers, assistants and demonstrators. St. Patrick's College, Maynooth, has not been included.

ITALY

I. Criteria for the recruitment and promotion of teaching staff

University teachers in Italy are recruited on the basis of a public examination held at the request of the faculties concerned. No university degree is stipulated in order to sit for it; the candidate must, however, demonstrate his real teaching ability to a Board, which generally consists of full professors and specialists in the field concerned or related fields. The candidate selected is appointed extraordinary professor. If his work proves satisfactory after a three-year probationary period, he may be appointed ordinary professor. Promotion is thenceforth automatic.

Ordinary professors or supernumerary professors between 70 and 75 may not have any other salaried work. Professors not occupying chairs may take other employment, but their salaries are then halved, and they lose various other material advantages.

Assistants are also recruited on the basis of a competitive examination. They are then required to obtain the "libera docenza" within ten years (see below), without interrupting their teaching functions. Those wishing to make university teaching their career specialise in a particular field after obtaining the "laurea", and sometimes a further qualification. Their specialisation normally leads to the "libera docenza", which qualifies them for higher level teaching, awarded on the strength of degrees and diplomas obtained, and on the results of competitive examinations.(1)

Professors not holding chairs generally possess the "libera docenza", which qualifies them to give "free lectures". It is awarded for five years, and may be renewed.

A full professor may be allowed to take a sabbatical year, on full pay, to pursue research work.

Under the existing regulations, a professor teaching a specialised subject may be required to give not more than one other course in a related field. Those giving two courses represent about one third of the total teaching body.(1)

II. Trends in numbers of teachers and students in higher education

There is no non-university higher education in Italy, all higher education being provided by the universities.

1. Student/teacher ratios and numbers

The numbers of teachers and students will be found in tables I and II in annex. The figures are taken from the Italian Educational Yearbook and have been used as a basis for the student/teacher ratios calculated in table A.

2. Average annual rates of growth in university staff and student numbers in the various fields of study between 1950 and 1965

The rates of change are shown in table B, which indicates a relatively consistent increase in the number of all teachers (somewhere between 4 and 7 per cent), whereas the student numbers vary widely according to the field of study concerned.

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(1) Answers to "complementary questions".

These differences in growth rates mean that the situation has developed on very different lines in different faculties. There is a distinct improvement in student/teacher ratios in science, technology, medical sciences, agriculture and law; but in architecture, humanities and social science, the position has deteriorated, as already noted in table A.

In technology, medical sciences, agriculture and law, the number of senior level teachers has risen relatively faster than the number of students.

In all fields of study, junior level teachers have shown the highest growth rates.

Note should be taken of the generally small increase (or in some instances the decline) in student numbers during the period considered, except in architecture, humanities and social sciences.

Table A

Student/teacher ratios, classified by level of teaching and field of study in university level higher education, 1950 and 1965

Field of study	Year	S/SL	S/ML	S/JL	S/SL+ML	S/Total
Pure science	1950	98.5	35.8	21.4	26.3	11.8
	1965	108.0	30.0	13.0	23.5	8.4
Architecture	1950	120.2	22.0	13.2	18.6	7.7
	1965	201.8	65.0	9.5	49.2	7.9
Technology	1950	179.4	107.0	33.1	67.0	22.1
	1965	170.8	57.3	15.8	42.9	11.5
Medical sciences	1950	122.3	135.1	10.7	64.2	9.2
	1965	66.3	66.1	4.0	33.1	3.5
Agriculture	1950	52.5	25.8	12.9	17.3	7.4
	1965	27.7	16.2	4.6	10.2	3.2
Humanities	1950	152.0	131.6	36.7	70.5	24.1
	1965	261.5	154.4	37.9	97.1	27.2
Law	1950	117.4	200.2	51.6	74.0	30.4
	1965	113.6	189.4	20.0	71.0	15.6
Social sciences	1950	205.9	117.3	47.0	74.7	28.8
	1965	346.0	258.3	43.3	147.9	33.5
Average ratios	1950	130.3	89.4	22.6	53.0	15.8
	1965	152.5	83.7	15.5	54.0	12.0

Table B

Average annual growth rates in staff and student numbers at universities (1950 to 1965)

(in percentages)

Field of study	Teachers				Students
	SL	ML	JL	Total	
Pure science	4.1	6.0	8.3	7.2	4.8
Architecture	3.3	-0.5	9.3	6.8	7.0
Technology	3.0	7.0	7.9	7.2	2.6
Medical sciences	2.4	3.1	5.1	4.8	-1.7
Agriculture	2.3	1.1	5.1	3.7	-2.0
Humanities	2.6	5.2	6.1	5.5	6.4
Law	1.1	1.2	7.4	5.4	0.8
Social sciences	4.0	2.2	8.3	6.6	7.7
Total	2.7	4.2	6.4	5.7	3.8

3. Structural changes in the teaching body

Table C below shows changes in the composition of the teaching body, classified by level, between 1950 and 1965.

Table C

Structural changes in the teaching body (as percentage of total teachers)

Field of study	1950/1951			1965/1966		
	SL	ML	JL	SL	ML	JL
Pure science	12.0	33.0	55.0	7.8	27.9	64.3
Architecture	6.4	35.0	58.6	3.9	12.2	83.4
Technology	12.3	20.7	67.0	6.8	20.1	73.1
Medical sciences	7.5	6.8	85.7	5.3	5.4	89.3
Agriculture	14.1	28.7	57.2	11.4	19.5	69.1
Humanities	15.9	18.3	65.8	10.4	17.6	72.0
Law	25.9	15.2	58.9	13.7	8.2	78.1
Social sciences	14.0	24.6	61.4	9.7	13.0	77.3
Total	12.2	17.7	70.1	7.9	14.4	77.7

Source: Tables I and II in annex.

In all fields of study, there was a drop in the proportion of senior and middle level teachers, and a rise in the proportion of junior level teachers.

III. Composition of the teaching body

1. Proportion of women teachers

The answers to the "complementary questions" indicate that the percentage of women teachers in higher education is still low (now about 18 per cent), although it has risen appreciably since 1945 (when it was about 9 per cent).

2. Proportion of part-time teachers

UNESCO has published figures giving a rough idea of the composition of the teaching body according to length of service. These figures, covering the years 1957-58 to 1961-62, are reproduced in table D. The proportion of part-time teachers, in "physical" terms, which was already high in 1957 (61.9 per cent), rose further during the period under consideration (70.9 per cent in 1961).

3. Increase in the number of junior level teachers

As already noted under II.2, the number of junior level teachers increased much faster than the teaching body as a whole. The annual rate of growth at this level between 1950 and 1965 was, on average, 0.7 per cent higher than the rate for the total teaching body.

IV. Conclusions

The situation in respect of numbers of teachers has developed fairly favourably on the whole, as only at the senior level has the increase failed to keep pace with the growth in student numbers; the margin of difference is, however, still very small.

There was a distinct drop in the student/teacher ratio in science, technology, medical sciences and agriculture, but a definite rise in the ratio in humanities and social sciences. In addition, the number of teachers rose fairly steadily in all fields of study (by 4 to 7 per cent), irrespective of the trends in student numbers.

Table D

Proportion of part-time teachers in university higher education

	Year	Number of institutions	Teaching staff		
				Part-time teachers	
			Total	Absolute figures	Percentages
Universities and institutions awarding equivalent qualifications	1961-62	43	21,902	15,529	70.9
	1960-61	43	17,171	10,889	63.4
	1959-60	40	16,534	10,722	64.8
	1958-59	40	15,161	9,633	63.5
	1957-58	40	13,816	8,547	61.9

Source: UNESCO, World Survey of Education, Volume IV.

ANNEX I

ANNEXE I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
(FULL TIME AND PART TIME)
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE
(PLEIN TEMPS ET TEMPS PARTIEL)

COUNTRY / PAYS : ITALY / ITALIE
TABLE / TABLEAU : I

SL = Senior Level (a) Statut Supérieur = SS (a)
ML = Middle Level (a) Statut Moyen = SM (a)
JL = Junior Level (a) Statut Inférieur = SI (a)

Field of specialization / Branches	PURE SCIENCE SCIENCES PURES				ARCHITECTURE				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				TOTAL			
Year / Année	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1950/51	235	647	1 081	1 963	30	164	274	468	167	280	906	1 353	402	364	4 588	5 354	142	289	576	1 007	309	357	1 280	1 946	312	183	710	1 205	147	258	644	1 049	1 744	2 542	10 059	14 345
1951/52	241	694	1 186	2 121	30	151	248	429	171	282	930	1 383	404	374	5 143	5 921	143	302	633	1 078	323	345	1 275	1 943	313	181	775	1 269	157	222	668	1 047	1 782	2 551	10 858	15 191
1952/53	247	726	1 274	2 247	31	170	288	489	161	301	1 067	1 529	403	396	5 375	6 174	145	330	661	1 136	327	345	1 398	2 070	310	190	865	1 365	155	258	750	1 163	1 779	2 716	11 678	16 173
1953/54	252	769	1 344	2 365	32	171	291	494	163	321	1 084	1 568	411	432	5 519	6 362	140	318	659	1 117	329	390	1 399	2 118	309	193	896	1 398	161	306	793	1 260	1 797	2 900	11 985	16 682
1954/55	265	793	1 449	2 507	33	171	320	524	173	325	1 117	1 615	420	430	6 133	6 973	151	333	743	1 227	342	382	1 469	2 193	305	193	870	1 368	163	293	796	1 252	1 852	2 910	12 897	17 659
1955/56	291	798	1 595	2 684	39	170	351	560	174	335	1 173	1 682	443	407	6 508	7 358	153	344	775	1 272	356	378	1 584	2 318	316	185	913	1 414	175	294	900	1 369	1 947	2 911	13 799	18 657
1956/57	269	892	1 707	2 888	41	170	394	605	173	347	1 243	1 763	461	430	6 952	7 843	162	317	823	1 302	359	430	1 701	2 490	322	196	982	1 500	178	313	990	1 481	1 985	3 095	14 792	19 872
1957/58	294	933	1 702	2 929	39	175	374	588	179	347	1 205	1 731	474	452	7 082	8 008	162	329	784	1 275	364	500	1 725	2 589	324	200	1 044	1 568	182	315	953	1 450	2 018	3 251	14 869	20 138
1958/59	304	1 016	1 889	3 209	41	163	486	690	182	385	1 464	2 031	470	470	7 753	8 693	169	334	861	1 364	368	531	1 890	2 789	334	226	1 164	1 724	198	328	1 141	1 667	2 066	3 453	16 648	22 167
1959/60	291	1 158	2 127	3 576	3	14	30	47	212	562	2 389	3 163	443	539	8 415	9 397	159	350	896	1 405	340	634	2 029	3 003	300	232	1 218	1 750	180	395	1 269	1 844	1 928	3 884	18 373	24 185
1960/61	309	1 205	2 138	3 652	41	192	634	867	186	550	1 931	2 667	455	571	8 726	9 752	169	354	954	1 477	342	749	2 250	3 341	302	262	1 334	1 898	189	406	1 348	1 943	1 993	4 289	19 315	25 597
1961/62	326	1 257	2 352	3 935	45	184	706	935	206	563	2 212	2 981	472	565	9 685	10 722	170	317	978	1 465	359	726	2 334	3 419	313	269	1 456	2 038	200	401	1 482	2 083	2 091	4 282	21 205	27 578
1962/63	354	1 324	2 543	4 221	46	161	698	905	216	620	1 844	2 680	494	559	8 923	9 976	180	321	998	1 499	382	703	2 392	3 477	313	280	1 588	2 181	216	405	1 596	2 217	2 201	4 373	20 582	27 156
1963/64	378	1 550	2 764	4 692	48	176	708	932	230	716	2 177	3 123	516	554	8 848	9 918	185	317	1 058	1 560	403	688	2 566	3 657	336	242	1 725	2 303	237	365	1 774	2 376	2 333	4 608	21 620	28 561
1964/65	401	1 512	3 073	4 986	50	161	730	941	253	723	2 425	3 401	556	527	8 754	9 837	187	312	1 074	1 573	425	754	2 789	3 968	337	209	1 761	2 307	259	352	1 923	2 534	2 468	4 550	22 529	29 547
1965/66	431	1 549	3 576	5 556	49	152	1 046	1 247	260	775	2 816	3 851	575	577	9 612	10 764	199	341	1 207	1 747	453	767	3 127	4 347	365	219	2 077	2 661	265	355	2 116	2 736	2 597	4 735	25 577	32 909

Source : Development of higher education - 1950-1967, Statistical Survey (Italy), O.E.C.D., Paris, 1970.

Note : (a) SL = Professori de Ruolo (Titular Professors)
ML = Professori Incaricati non di ruolo (Acting professors)
SI = Aiuti e Assistenti (Auxiliaries and Assistants)

The "Liberi Docenti" are not included.

Source : Développement de l'enseignement supérieur - 1950-1967, Statistiques par pays, (Italie), O.C.D.E., Paris, 1970.

Note : (a) SS = Professori de Ruolo (Professeurs titulaires)
SM = Professori Incaricati non di ruolo (Professeurs non titulaires chargés d'un enseignement)
SI = Aiuti e Assistenti (Auxiliaires et assistants)

Les "Liberi Docenti" ne sont pas compris.

TEACHING STAFF BY FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
(FULL TIME AND PART TIME)
PERSONNEL ENSEIGNANT PAR BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE
(PLEIN TEMPS ET TEMPS PARTIEL)

COUNTRY / PAYS : ITALY / ITALIE
TABLE / TABLEAU : I bis(Indexes) / I bis(Indices)

Field of specialization/ Branches — Year / Année	PURE SCIENCE SCIENCES PURES	ARCHITECTURE	TECHNOLOGY TECHNOLOGIE	MEDICAL SCIENCE SCIENCES MEDICALES	AGRICULTURE	HUMANITIES LETTRES	LAW DROIT	SOCIAL SCIENCES SCIENCES SOCIALES	TOTAL
1950/51	100	100	100	100	100	100	100	100	100
1951/52	108	92	102	111	107	100	105	100	106
1952/53	114	104	113	115	113	106	113	111	113
1953/54	120	106	116	119	111	109	116	120	116
1954/55	128	112	119	130	122	113	114	119	123
1955/56	137	120	124	137	126	119	117	131	130
1956/57	147	129	130	146	129	128	124	141	139
1957/58	149	126	128	150	127	133	130	138	140
1958/59	163	147	150	162	135	143	143	159	155
1959/60	182	10	234	176	140	154	145	176	169
1960/61	186	185	197	182	147	172	158	185	178
1961/62	200	200	220	200	145	176	169	199	192
1962/63	215	193	198	186	149	179	180	211	189
1963/64	239	199	230	185	155	188	191	227	199
1964/65	254	201	251	184	156	204	191	242	206
1965/66	283	266	235	201	173	223	221	261	229

Source : see Table I.
voir Tableau I.

Table II

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS
(Absolute figures and indexes)

	PURE SCIENCE		ARCHITECTURE		TECHNOLOGY		MEDICAL SCIENCES		AGRICULTURE		HUMANITIES		LAW		SOCIAL SCIENCES		TOTAL	
	TOTAL	IND.	TOTAL	IND.	TOTAL	IND.	TOTAL	IND.	TOTAL	IND.	TOTAL	IND.	TOTAL	IND.	TOTAL	IND.	TOTAL	IND.
1950/51	23,158	100	3,606	100	29,967	100	49,178	100	7,457	100	46,974	100	36,636	100	30,263	100	227,239	100
1951/52	23,442	101	3,565	99	27,923	93	46,525	95	6,991	94	45,701	97	38,315	105	29,388	97	221,850	98
1952/53	24,109	104	3,877	108	26,753	89	45,786	93	6,470	87	43,355	92	39,162	107	29,049	96	218,561	96
1953/54	23,466	101	3,935	109	25,693	86	42,717	87	5,928	79	42,540	91	40,567	111	29,163	96	214,009	94
1954/55	22,555	97	4,156	115	25,225	84	39,883	81	5,630	75	37,637	80	42,749	117	30,719	102	208,554	92
1955/56	22,233	96	4,405	122	24,409	81	36,859	75	5,295	71	37,545	80	42,563	116	33,478	111	206,787	91
1956/57	22,281	96	4,612	128	24,368	81	33,788	69	4,887	66	38,645	82	43,150	118	36,722	121	208,453	92
1957/58	23,792	102	4,945	137	24,834	83	32,467	66	4,701	63	41,148	88	44,348	121	40,807	135	217,042	96
1958/59	25,453	110	5,242	145	26,862	90	31,671	64	4,571	61	43,930	94	43,894	120	45,995	152	227,618	100
1959/60	27,272	118	5,721	159	27,948	93	31,927	65	4,844	65	46,865	100	44,595	122	52,515	174	241,697	106
1960/61	29,189	126	6,042	168	29,880	100	31,412	64	4,594	62	52,656	112	46,649	127	60,539	200	260,961	115
1961/62	31,260	135	6,615	183	31,690	106	31,501	64	4,815	65	60,020	128	46,574	127	68,055	225	280,530	123
1962/63	34,058	147	7,107	197	33,422	112	32,161	65	4,788	64	72,068	153	44,055	120	76,984	254	304,643	144
1963/64	37,111	160	7,792	216	35,911	120	32,132	65	4,612	62	83,941	178	43,651	119	81,407	269	326,557	144
1964/65	38,965	168	8,861	245	37,776	126	34,410	70	4,823	65	99,321	211	41,452	113	86,224	285	351,832	155
1965/66	46,542	201	9,886	274	44,414	148	38,148	78	5,508	74	118,455	252	41,469	113	91,680	303	396,102	174

Source : See Table I.

JAPAN

In Japan higher education is provided either at state-run or private universities. In 1960, 57.1 per cent of universities were privately run. Apart from the universities there are post-secondary colleges designed to provide practical occupational training combined with general education. These schools train not only engineers but also technical personnel for trade and industry. There are also technical colleges which offer pupils leaving junior secondary schools five years of combined general and occupational training.

I. Criteria for the recruitment and promotion of teaching staff

The staff of Japanese universities consists of professors with chairs, assistant professors, lecturers and assistants. For appointment to a chair it is not necessary to have a doctorate but candidates lacking this title must either have published work comparable in importance to a thesis, or have already occupied a chair in another university, or must be an assistant professor and have published enough studies to provide evidence of a high level of specialisation. The same conditions for appointment to teaching posts apply for both private and public universities. A member of the university staff is allowed to engage in activities outside the field of teaching if the Ministry of Education considers that they do not detract from his teaching activities. Promotion is not automatic but on the recommendation of the President. The answers to the "complementary questions" show that all teaching staff have the theoretical qualifications demanded by the Ministry of Education.(1) There are consequently no university teachers in Japan who are inadequately qualified.

II. Trends in numbers of teachers and students in higher education

The numbers of teachers and students are shown in tables I and II in annex. These relate to both the university and non-university sectors of higher education. No breakdown by field of study is possible. A number of student/teacher ratios have been worked out.

A. University Education

1. Student/teacher ratios and numbers

Table A shows the ratio trends of students/teachers in higher education. Interesting calculations have been made which show that the ratios have improved more for full-time teachers than for part-time teachers and full-time teachers together. On the other hand, the same calculations according to the different levels show diverging results.

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(1) Consult annex II (provided by the Ministry of Education) for official criteria for recruiting and promoting university teachers.

Table A

Student/teacher ratios by level and type of
staff in universities between 1950 and 1965

	Students/full-time and part-time teachers					Students/full-time teachers only				
	S/SL	S/ML	S/JL	S/SL+ML	Students Total	S/SL	S/ML	S/JL	S/SL+ML	Students Total
1950-51	38.0	20.1	90.7	13.2	11.5	53.5	42.7	101.3	23.8	19.3
1965-66	49.3	20.8	46.2	14.6	11.1	52.9	41.9	51.5	23.4	16.1

For the period 1964-65 the answers to the "complementary questions" give the following breakdown, relating exclusively to full-time teachers: (table B).

Table B

Number of full-time teachers (a) by field of study on
1st June, 1965 (public and private universities)

Field of study	Number of teachers	Percentage
(1) Pure science	8,724	15.8
(2) Architecture	750	1.4
(3) Technology	8,505	15.4
(4) Medical sciences	14,488	26.3
(5) Agriculture	3,906	7.1
(6) Humanities	10,694	19.4
(7) Education	933	1.7
(8) Fine arts	1,550	2.8
(9) Law	1,468	2.7
(10)Social sciences	3,809	6.9
(11)Other subjects	267	0.5
Total (b)	55,094	100.0

Source: Statistical Survey of Teachers, 1965 (Japanese Ministry of Education).

Notes: (a) The above figures do not include teachers on special leave or those temporarily studying abroad. The total number of teachers shown, therefore, falls short of the figures in table I in the annex.

(b) 397 teachers who do not belong to any of the above fields are not shown in this table.

2. Annual growth rates of university staff and students between 1950 and 1965

The average annual growth rate in the numbers of teaching staff of universities with a breakdown by level and terms of employment together with the growth rate in the student body are shown in table C:

Table C

Average annual growth rates of university staff and students from 1950 to 1965

(in percentages)

	Staff				Students
	SL	ML	JL	Total	
Full-time	10.1	10.1	15.0	11.3	
Part-time	-1.9	9.4	14.9	8.3	
Total	8.1	9.8	15.0	10.2	10.0

The above table shows that the increase in full-time teachers was more rapid than the increase in students on the one hand and part-time teachers on the other. The divergence in the trends is very pronounced in the case of senior level staff. Moreover, table V in annex I clearly shows that the number of full-time senior level staff has steadily increased whereas the trend in part-time senior level staff has shown what at first sight appears to be a number of rather erratic fluctuations.

3. Structural changes in the university teaching body between 1950 and 1965

The changes shown in table D indicate that in 1965 junior level, full-time teachers occupied a larger place than senior level full-time teachers. This is contrary to the situation in 1950.

Table D

Structural changes in university teaching staff from 1950 to 1965

(as percentage of total teachers)

	SL		ML		JL	
	full-time	part-time	full-time	part-time	full-time	part-time
1950	35.9	21.8	45.1	74.9	19.0	3.3
1965	30.4	5.0	38.4	87.1	31.2	7.9

B. Non-university type higher education

Junior colleges and technical colleges are considered to be non-university institutions of higher education by the Japanese authorities.

1. Absolute numbers and student/teacher ratios

The student/teacher ratios shown in table E were calculated on the basis of tables I and II in annex I:

Table E

Student/teacher ratios by level and terms of employment of teachers in non-university institutions of higher education

	I. Students /full-time plus part-time teachers					II. Students/full-time teachers				
	S/SL	S/ML	S/JL	S/SL+ ML	S/Staff overall	S/SL	S/ML	S/JL	S/SL+ ML	S/Staff overall
1950-51	10.5	4.7	49.1	3.2	3	16.8	12.9	61.5	7.3	6.5
1965-66	30.6	5.2	37.9	4.5	4	41.9	26.4	80.2	16.2	13.5

Table E shows a considerable increase in the student/full-time teacher ratios in non-university-type higher education between 1950 and 1965. The trend therefore appears very different from that shown for the university sector.

2. Average annual growth rates of non-university numbers

The situation described above is confirmed by the comparison of average annual growth rates in numbers of students and teachers over this 15 year period (table F).

Table F

Average annual growth rates in numbers of students and teachers in junior colleges and technical colleges (1950-65)

(in percentage)

	Teachers												Stu-dents
	Junior colleges				Technical colleges				Total				
	SL	ML	JL	Total	SL	ML	JL	Total	SL	ML	JL	Total	
Full-time	9.4	10.1	14.1	10.4	63.0	79	(a)	78					
Part-time	7.4	11.4	8.4	10.7	-12.7	58	(a)	63					
Total	8.7	11.0	13.2	10.5	59.0	73	(a)	72	9.3	11.7	14.1	11.4	17.1

Note: (a) As the number of these teachers at the beginning of the period was almost negligible, the resulting rates of growth are not significant.

3. Structural changes in non-university teaching staff

In order to take account of the recent creation of "technical colleges", the structural changes are presented separately in table G by colleges. The growth in strength of junior level teachers among full-time teachers can be seen.

Table G

Structural changes in non-university teaching staff

(as percentage of total teachers)

		SL		ML		JL	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Junior colleges	1950	38.7	20.4	50.7	77.3	10.6	2.3
	1965	34.0	12.9	48.6	85.3	17.4	1.8
Technical colleges	1962	29.1	9.8	63.1	90.2	7.8	-
	1965	22.3	1.9	64.3	95.9	13.4	2.2

III. Composition of the teaching body

Tables D and G have already shown the growth in strength of junior level teachers (except among the part-time non-university teaching body). In answer to the "complementary questions" it was reported that out of 36,565 teaching posts on 30th June, 1969, 2,652 had not been filled.

In 1965 a statistical survey of teaching staff was carried out by the Ministry of Education. According to this survey the number of hours of teaching staff was as follows:

Table H

Hours of teaching in higher education

	Professors	Assistant professors	Lecturers	Average
National university	13.1	12.0	10.6	12.2
Public university	13.4	11.5	9.2	11.7
Private university	11.5	12.1	10.5	11.3
Average	12.4	12.0	10.4	11.8

Source: Answers to the "complementary questions".

1. Part-time teachers

It was possible to assess these teachers with the help of table I in annex I. In 1950 they represented (in "physical" terms) 40.3 per cent of the total number of teachers in universities and 53.3 per cent of teachers in junior colleges. In 1965 they accounted for 31 per cent of university teachers, 54.4 per cent of staff in junior colleges and 17.7 per cent of teachers appointed to technical colleges.

Table I

Percentage of women teachers in higher education (a)

University year	Total number of teachers	Total number of women teachers	Percentage of women teachers
1949	7,437	553	7.4
1950	11,534	649	5.6
1951	17,475	1,037	5.9
1952	23,123	1,392	6.0
1953	32,819	1,583	4.8
1954	36,489	1,905	5.2
1955	38,010	1,979	5.2
1956	39,289	2,089	5.3
1957	40,444	2,221	5.5
1958	41,481	2,326	5.6
1959	42,775	[illegible]	5.9
1960	44,434	[illegible]	6.1
1961	45,471	[illegible]	6.4
1962	47,850	[illegible]	6.7
1963	50,911	3,649	7.2
1964	54,408	4,084	7.5
1965	57,445	4,233	7.4
1966	62,642	4,934	7.9
1967	66,738	5,349	8.0

Source: Fundamental Statistical Survey of Schools 1949-1967 (annual).

Note: (a) Full-time teachers only.

2. The part played by women teachers

The data given in tables I and J concern only full-time men teachers.

After irregular growth between 1949 and 1955 the percentage of women teachers in university education increased slightly almost reaching 8 per cent in 1967.

As in other countries the strength of women teachers is felt more in non-university education. Their numbers have grown regularly since 1950 in junior colleges to reach almost 40 per cent in 1967, and around one-third in technical colleges.

Table J

Percentage of women teachers in the non-university institutions of higher education (a)

University year	Teachers in junior colleges			Teachers in technical colleges			Total		
	Total (A)	Women teachers (B)	B/A	Total (A)	Women teachers (B)	B/A	Total (A)	Women teachers (B)	B/A
1950	2,124	600	28.2						
1951	2,956	833	28.2						
1952	3,620	1,004	27.7						
1953	4,221	1,174	27.8						
1954	5,023	1,493	29.7						
1955	5,505	1,675	30.4						
1956	5,687	1,786	31.4						
1957	6,187	1,952	31.6						
1958	6,087	2,003	32.9						
1959	6,161	2,091	33.9						
1960	6,394	2,251	35.2						
1961	6,743	2,406	35.7						
1962	7,284	2,576	35.4	298	1	0.3	7,582	2,577	34.0
1963	7,918	2,902	36.7	680	0	0.0	8,598	2,902	33.8
1964	8,704	3,237	37.2	1,166	6	0.5	9,870	3,243	32.9
1965	9,321	3,555	38.1	1,691	11	0.7	11,012	3,566	32.4
1966	11,492	4,400	38.3	2,198	13	0.6	13,690	4,413	32.2
1967	13,449	5,234	38.9	2,506	10	0.4	15,955	5,244	32.9

Source: Answers to "complementary questions".

Note: (a) Full-time teachers only.

IV. Conclusions

In general the number of full-time teachers at all levels in Japanese universities increased proportionately more than the number of students. As far as all university teachers are concerned (full-time and part-time) only junior level staff increased more rapidly than students. The absolute number of part-time senior staff declined.

In non-university institutions, all teaching staffs at all levels have constantly increased more slowly than the total number of non-university students.

Part-time teachers and women teachers are proportionately more numerous in private universities than in public universities, and in junior colleges than in universities.

Although there was no clear trend before 1953 it would seem that the percentage of women teachers in universities has slowly but steadily increased since that date.

ANNEX I

ANNEXE I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS, NON UNIVERSITY INSTITUTIONS AND ALL HIGHER EDUCATION
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE, NON UNIVERSITAIRE ET POUR L'ENSEMBLE DE L'ENSEIGNEMENT SUPERIEUR

COUNTRY / PAYS: JAPAN / JAPON
TABLE / TABLEAU: I

President, Professors = SL = Senior Level — Statut Supérieur = SS = Président, Professeurs
Assistant-professors and Lecturers = ML = Middle Level — Statut Moyen = SM = Assistants-professeurs et Chargés de cours
Assistants = JL = Junior Level — Statut Inférieur = SI = Assistants

Field of specialization / Branches — Year / Année	FULL TIME / PLEIN TEMPS												PART TIME / TEMPS PARTIEL												FULL TIME/PLEIN TEMPS				PART TIME/TEMPS PARTIEL				TOTAL FULL TIME AND PART TIME / PLEIN TEMPS ET TEMPS PARTIEL											
	UNIVERSITIES / UNIVERSITES				"JUNIOR COLLEGES"				TOTAL				UNIVERSITIES / UNIVERSITES				"JUNIOR COLLEGES"				TOTAL				TECHNICAL COLLEGES / COLLEGES D'ENSEIGNEMENT TECHNIQUE								UNIVERSITIES / UNIVERSITES				"JUNIOR COLLEGES"				TECHNICAL COLLEGES / COLLEGES D'ENSEIGNEMENT TECHNIQUE			
	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T	SL / SS	ML / SM	JL / SI	T
1950-51	4 146	5 197	2 191	11 534	823	1 076	225	2 124	4 969	6 273	2 416	13 658	1 701	5 841	256	7 798	495	1 876	57	2 428	2 196	7 717	313	10 226									5 847	11 038	2 447	19 332	1 318	2 952	282	4 552				
1951-52	5 405	9 086	2 984	17 475	[illegible]	1 665	280	2 956	6 416	10 751	3 264	20 431	612	4 845	148	5 805	790	2 710	98	3 598	1 602	7 555	246	9 403																				
1952-53	6 682	10 665	3 776	23 123	1 211	2 006	403	3 620	7 893	12 671	6 179	26 743	2 303	9 192	2 360	13 855	959	3 658	91	4 708	3 262	12 850	2 451	18 563																				
1953-54	8 774	13 427	10 618	32 819	1 363	2 370	488	4 221	10 137	15 797	11 106	37 040	1 204	9 033	530	10 767	914	4 206	101	5 221	2 118	13 239	631	15 988																				
1954-55	9 532	14 620	12 337	36 489	1 534	2 843	646	5 023	11 066	17 463	12 983	41 512	1 288	10 117	1 275	12 680	1 072	4 923	198	6 193	2 360	15 040	1 473	18 873																				
1955/56	10 140	15 155	12 715	38 010	1 622	3 104	779	5 505	11 762	18 259	13 494	43 515	1 190	11 229	1 340	13 759	1 051	5 448	192	6 695	2 241	16 577	1 536	20 454																				
1956/57	10 608	15 700	12 981	39 289	1 720	3 131	836	5 687	12 328	18 831	13 817	44 976	1 234	12 484	1 589	15 307	1 032	5 566	143	6 741	2 266	18 050	1 732	22 048																				
1957/58	11 027	16 204	13 213	40 444	1 839	3 403	945	6 187	12 866	19 607	14 158	46 631	1 420	11 671	1 810	14 901	1 059	5 645	148	6 852	2 479	17 316	1 958	21 752																				
1958/59	11 421	16 690	13 370	41 481	1 807	3 365	915	6 087	13 228	20 055	14 285	47 568	1 109	12 099	1 572	14 780	995	5 877	129	7 001	2 104	17 976	1 701	21 781																				
1959/60	11 328	17 228	13 619	42 775	1 853	3 333	975	6 161	13 781	20 561	14 594	48 936	943	12 814	1 577	15 334	975	5 899	180	7 054	1 918	18 713	1 757	22 388																				
1960/61	12 507	17 949	13 978	44 434	1 931	3 388	1 075	6 394	14 438	21 337	15 053	50 828	959	14 023	1 605	16 587	923	6 124	215	7 262	1 882	20 147	1 820	23 847																				
1961/62	13 166	18 531	13 774	45 471	2 007	3 497	1 239	6 743	15 173	22 028	15 013	52 214	1 227	15 359	1 682	18 268	991	6 797	249	8 037	2 218	22 156	1 931	26 305																				
1962/63	14 073	19 214	14 563	47 850	2 337	3 720	1 227	7 284	16 497	23 122	15 813	55 432	1 006	16 787	1 626	19 419	999	6 880	178	8 057	2 015	23 759	1 804	27 578	87	188	23	298	10	92	0	102									90	280	21	40
1963/64	15 018	20 177	15 716	50 911	2 631	3 929	1 358	7 918	17 829	24 539	17 141	59 509	1 043	18 676	1 751	21 470	1 083	8 536	230	9 849	2 141	27 334	1 985	31 460	150	431	67	648	15	122	4	141												
1964/65	16 197	21 594	16 977	54 768	2 876	4 341	1 467	8 704	19 367	26 706	18 365	64 638	1 057	19 800	1 888	22 745	1 256	8 685	244	10 185	2 328	28 500	2 139	32 967	274	771	121	1 166	15	298	7	320					4 932	16 463	2 151	22 556				
1965/66	17 459	22 047	17 939	57 445	3 169	4 527	1 625	9 321	21 005	27 662	19 790	68 457	1 277	22 425	2 057	25 759	1 439	9 499	192	11 130	2 723	32 273	2 257	37 253	177	1 068	226	1 471	7	349	8	364	18 736	44 472	19 996	83 204	4 606	14 026	1 817	20 451	384	1 437	234	2 055

Source : Annual reports of the Ministry of Education 1959-1965 and Answers to "Complementary questions".
Rapports annuels du ministère de l'Education 1950-1965 et Réponses aux "Questions complémentaires".

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS, NON UNIVERSITY INSTITUTIONS AND ALL HIGHER EDUCATION

PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE, NON UNIVERSITAIRE ET POUR L'ENSEMBLE DE L'ENSEIGNEMENT SUPERIEUR

COUNTRY / PAYS : JAPAN / JAPON

TABLE / TABLEAU : I bis (Indexes) / I bis (Indices)

Field of specialization/ Branches — Year / Année	Full time Plein temps			Part time Temps partiel			Total		
	Universities Universités	"Junior Colleges"	Total	Universities Universités	"Junior Colleges"	Total	Universities Universités	"Junior Colleges"	"Technical Colleges"
1950/51	100	100	100	100	100	100	100	100	
1951/52	152	139	150	74	148	92			
1952/53	200	170	196	178	194	181			
1953/54	285	199	271	138	215	156			
1954/55	316	236	304	163	255	185			
1955/56	330	259	319	176	276	200			
1956/57	341	268	329	196	278	216			
1957/58	351	291	341	191	282	213			
1958/59	360	287	348	190	288	213			
1959/60	371	290	358	197	291	219			
1960/61	385	297	372	213	299	233			
1961/62	394	317	382	234	331	257			
1962/63	415	343	406	249	332	270			100
1963/64	441	373	436	275	406	308			
1964/65	475	410	473	292	419	322			
1965/66	498	439	501	330	458	364	430	449	514

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS, NON UNIVERSITY INSTITUTIONS AND ALL HIGHER EDUCATION

EFFECTIFS D'ETUDIANTS DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE, NON UNIVERSITAIRE ET POUR L'ENSEMBLE DE L'ENSEIGNEMENT SUPERIEUR

COUNTRY / PAYS : JAPAN / JAPON

TABLE / TABLEAU : II

Field of specialization/ Branches — Year / Année	UNIVERSITY LEVEL NIVEAU UNIVERSITAIRE												Non University	Total All Higher Education Ensemble de l'ens. sup. (c)
	PURE SCIENCE SCIENCES PURES	ARCHITECTURE (a)	TECHNOLOGY TECHNOLOGIE (a)	MEDICAL SCIENCE SCIENCES MEDICALES	AGRICULTURE	HUMANITIES LETTRES	EDUCATION	FINE ARTS BEAUX ARTS	LAW DROIT (b)	SOCIAL SCIENCES SCIENCES SOCIALES (b)	OTHER AUTRES	Total (c)	Non Universitaire (c)	
1950/51	5 902		29 755	4 307	10 330	26 521	36 147	1 828		91 682	15 572	222 044	13 839	235 883
1951/52	7 834		41 132	9 062	15 783	41 717	50 366	3 085		126 273	14 137	309 389	34 933	344 322
1952/53	9 733		53 621	15 034	21 439	50 276	63 554	4 269		160 111	14 994	393 031	51 463	444 494
1953/54	9 867		58 801	19 756	22 917	56 050	65 935	4 587		179 734	18 305	435 952	62 238	498 190
1954/55	10 256		62 915	24 033	23 733	60 294	69 047	5 193		198 794	20 867	475 132	71 044	546 176
1955/56	9 908		68 275	29 364	25 800	76 683	62 631	5 924		205 549	19 571	503 705	76 025	579 730
1956/57	9 703		72.084	34 073	26 675	80 062	63 123	6 386		214 665	16 097	522 868	75 346	598 214
1957/58	15 776	15 874	57 911	35 321	26 627	91 198	61 436	9 662		224 719	...	538 524	71 585	610 109
1958/59	16 315	16 853	60 650	31 166	26 881	85 801	60 663	8 235		234 507	25 340	566 411	69 821	636 232
1959/60	16 687	17 615	67 016	31 714	26 982	88 027	60 372	8 563		245 059	25 776	587 811	74 022	661 833
1960/61	18 093	18 556	77 059	32 166	28 751	96 672	59 674	9 375		258 516	18 336	617 198	81 228	698 426
1961/62	19 414	20 318	87 519	33 770	29 998	103 992	59 660	10 258		276 311	19 419	660 659	91 345	751 904
1962/63	21 192	22 462	101 197	35 241	31 994	111 643	60 892	11 199	61 218	238 983	21 241	717 262	105 342	822 604
1963/64	24 027	25 757	118 928	37 226	34 190	121 224	61 172	12 785	68 764	261 355	18 040	783 468	120 238	903 706
1964/65	26 787	28 392	133 392	39 282	35 982	130 063	62 194	14 077	73 410	279 201	19 116	841 896	126 313	968 209
1965/66	30 663	33 540	149 638	42 226	38 165	143 496	65 541	16 124	80 171	304 771	20 584	923 919	148 501	1 072 420
1966/67														

Sources : Annual Reports of the Ministry of Education 1959-1965. and Answers to "Complementary questions".

Notes :
(a) Students enrolled in Architecture are included in Technology up to 1956.
(b) Students enrolled in Law are included in Social Sciences up to 1961.
(c) Students in advanced courses (non-degree courses) are excluded.

Sources : Rapports annuels du ministère de l'Education 1959-1965. et Réponses aux "Questions complémentaires".

Notes :
(a) Les effectifs d'étudiants inscrits en architecture sont présentés avec la technologie jusqu'en 1956.
(b) Le nombre des étudiants inscrits en droit est compris dans celui des sciences sociales jusqu'en 1961.
(c) Les étudiants inscrits dans les cours d'études supérieures qui ne donnent pas lieu à l'obtention de diplômes sont exclus de ces statistiques.

Table II bis (Indexes)

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS, NON-UNIVERSITY INSTITUTIONS AND ALL HIGHER EDUCATION

Field of specialisation / Year	University												Non-university	All higher education
	Pure science	Architecture	Technology	Medical sciences	Agriculture	Humanities	Education	Fine arts	Law	Social sciences	Other	Total		
1950/51	100		100	100	100	100	100	100		100	100	100	100	100
1951/52	133		138	210	153	157	139	169		138	91	139		146
1952/53	165		180	349	208	190	176	234		175	96	177		188
1953/54	167		198	459	222	211	182	251		196	118	196		211
1954/55	174		211	558	230	227	191	284		217	134	214		232
1955/56	168		229	682	250	289	173	324		224	126	227		246
1956/57	164		242	791	258	302	175	349		234	103	235		254
1957/58	267	100	195	820	258	344	170	529		245	...	242		259
1958/59	276	106	204	724	260	324	168	450		256	163	255		270
1959/60	283	111	225	736	261	332	167	468		267	166	265		281
1960/61	307	117	259	747	278	365	165	513		282	118	278		296
1961/62	329	128	294	784	290	392	165	561		301	125	297		319
1962/63	359	142	340	818	310	421	168	613	100	261	136	323		349
1963/64	407	162	400	864	331	457	169	699	112	285	116	353		383
1964/65	454	179	448	912	348	490	172	770	120	305	123	379		410
1965/66	520	211	503	980	369	541	179	882	131	332	132	416	1,073	455

Sources and notes: See table II.

Table III

Percentage distribution of teaching staff in universities and junior colleges by type of position

	1959/60	
	Universities	Junior colleges
Total	100	100
"Presidents"	0.6	2.9
"Professors"	27.3	27.2
"Assistant Professors"	25.6	21.1
"Lecturers"	14.7	33
"Assistants"	31.8	15.8

Source: Annual Report of the Ministry of Education, 1959-1965.

ANNEX II

Answers to "complementary questions"

Qualifications required for teaching staff

Article I

Qualifications for professors

Any person who satisfies one of the following conditions may be appointed as professor:

(1) Any person who holds the degree of Hakushi (Doctor's degree) (including equivalent degrees awarded in foreign countries);

(2) Any person whose achievements in research are recognized as equivalent to those specified in the preceding paragraph;

(3) Any person engaged as professor in a university (including universities under the former University Ordinance Imperial Ordinance No. 388, 1918. The same shall apply hereinafter in this Article, in the following Article and Article IV);

(4) Any person engaged as assistant professor and also recognized to have appropriate achievements in teaching and research;

(5) Any person engaged for five years or more as teacher in Higher Schools and Colleges (Higher Schools under the former Higher School Ordinance, Imperial Ordinance No. 389, 1918, and Colleges under the former College Ordinance, Imperial Ordinance No.61, 1903. The same shall apply hereinafter in Item 5 of the following Article), and other schools whose level is recognized to be equal to or higher than the schools aforesaid, and who is recognized to have appropriate achievements in teaching and research;

(6) In art, physical education and the like, any person with special skills engaged in teaching.

Article II

Qualifications for assistant professors

Any person who satisfies one of the following conditions may be appointed as assistant professor:

(1) Any person who may be appointed professor under the preceding article;

(2) Any person engaged as assistant professor or full-time lecturer in a university;

(3) Any person engaged for three years or more as assistant or equivalent teaching staff in a university, and recognized to be competent for teaching and research;

(4) Any person who holds the degree of Shushi (Master's degree) or who was enrolled at post-graduate courses of universities under the former University Ordinance for three years or more, and is recognized to have ability in teaching and study;

(5) Any person engaged for three years or more as professor or five years or more as assistant professor or full-time lecturer in Higher Schools, Colleges or other schools, recognized to have appropriate achievements or ability in teaching and study;

(6) Any person engaged in research institutes, laboratories, investigation institutes and the like for five years or more, and recognized to have appropriate achievements in research.

Article III

Qualifications for lecturers

Any person who satisfies one of the following conditions may be appointed as lecturer:

(1) Any person who can be appointed professor or assistant professor under Article I or the preceding Article;

(2) Any person recognized to have ability in teaching specialized fields of specific study.

Article IV

Qualifications for assistants

Any person who satisfies one of the following conditions may be appointed as assistant:

(1) Any graduate of a university faculty;

(2) Any person recognized to have equivalent ability to that specified in the preceding paragraph.

NORWAY

It was possible to investigate only the university-type institutions in Norway. The following are the only institutions deemed to be of university-type and, as such, authorised by the national authorities to award academic degrees:

University of Oslo (Universitetet i Oslo)
University of Bergen (Universitetet i Bergen)
Norwegian School of Economics and Business Administration (Norges Handelshøgskole)
State Institute of Technology (Norges tekniske høgskole)
State Teacher Training College (Norges laererhøgskole)
State College of Agriculture (Norges landbrukshøgskole)
State Veterinary College (Norges veterinaerhogskøle)
Training College for Instructors in Physical Education (Statens gymnastikkskole)
Independent Theological College (Menighetsfakultetet)

I. Criteria for the recruitment and promotion of teaching staff

The teaching staff in these institutions are full professors, generally appointed by the Government for life, on the proposal of the Faculty and the Senate of the University concerned. "Dosenters" are also appointed by the Government. Lecturers, "konservatorers" and "amanuensis" are appointed by the Senate of the Faculty. The academic qualifications and teaching abilities of the candidates are assessed by a committee of experts chosen by the Faculty from among Norwegian or foreign teachers in higher education. Professors and "dosenters" are required to put in five hours' teaching per week, lecturers generally more. In some cases, a Chair may be established to give the students the benefit of the knowledge of some eminent figure in the field of science or the arts. The Faculties concerned and the university Senate recommend the establishment of the Chair, and the incumbent is appointed as soon as the necessary funds have been voted.

II. Trend in numbers of teachers and students in university-type higher education

On the basis of the available national statistics on higher education in Norway, the trend in the number of teachers in relation to the number of students, between 1956 and 1965, can be considered for only a certain number of institutions. These are listed in footnote (a) to table I in annex; all are institutions in which university-type education is provided.

1. Student/teacher ratios and numbers

Tables I and II in annex show the numbers of teachers for the period 1955-65, broken down by field of study and by level, with the corresponding numbers of students.

On the basis of these figures, various student/teacher ratios have been worked out as shown in table A below. As, however, the data available for 1955 are incomplete, it was preferred to calculate all the ratios using for base years 1956 and 1965.

Table A

Student/teacher ratios by level of teacher in 1956 and 1965

Field of study	Year	S/SL	S/ML	S/JL	S/SL+ML	ST/T
Pure science	1956	17.2	61.3	6.7	13.4	4.4
	1965	70.3	99.5	13.2	45.8	9.1
Technology	1956	22.8	60.5	9.0	16.6	6.1
	1965	35.7	47.4	8.8	20.4	6.2
Agriculture	1956	8.3	47.4	4.4	7.1	2.7
	1965	13.0	30.3	3.1	9.1	2.3
Medical sciences	1956	16.3	17.8	9.2	8.8	4.4
	1965	17.8	34.0	9.2	11.7	5.2
Humanities	1956	23.9	105.9	22.1	19.5	10.4
	1965	11.0	384.6	38.3	85.4	26.4
Law	1956	45.5	197.0	59.1	36.9	22.7
	1965	126.4	695.0	51.5	106.9	34.8
Social sciences	1956	30.3	60.9	16.8	20.2	9.2
	1965	57.5	86.3	11.8	[illegible]	8.8
Average ratio	1956	20.1	49.3	10.8	14.3	6.1
	1965	51.4	98.8	13.8	33.8	9.8

The above table clearly shows an increase in all the average student/teacher ratios, except in agriculture and the social sciences.

The S/SL ratio has risen in all fields except humanities; the S/ML ratio has fallen in technology and agriculture; the S/SL+ML ratio has risen in every field. Finally, the number of junior level teachers has risen faster than the number of students in many fields.

Additional data

Further data for 1960 are available for all full-time staff in universities and other higher education institutions. These figures are summarised in table B.

Table B

Full-time staff in university-type institutions in 1960

	Total	Pure science	Technology	Medical sciences	Social sciences	Humanities
SL (a)	271	54	66	51	34	66
ML (b)	436	135	108	52	45	96
JL (c)	530	155	225	75	35	40
Total	1,237	344	399	178	114	202

Source: Innstilling om den videre utbygging av våre universiteter og høgskoler fra universitets og høgskolekomiteen av 1960.

Notes: (a) Professor.
(b) Privat-docent (dosent), reader (lektor) and "amanuensis".
(c) Vitenskaplige assistent and stipendiat.

Further student/staff ratios by field of study were also calculated for 1965, based on figures from another source.(1) They are summarised below in table C.

Table C

Student/teacher ratios in 1965

Field of study	Students/permanent staff (civil servants)	Students/total teaching and research staff
Pure science	4,200/298 = 14.1	4,200/562 = 7.5
Technology	2,650/241 = 11	2,650/438 = 6.1
Medical sciences	1,370/213 = 6.4	1,370/366 = 3.7
Agronomy	540/142 = 3.8	540/307 = 1.8
Humanities	6,770/275 = 24.6	6,770/381 = 17.8
Law	1,400/ 24 = 58.3	1,400/ 42 = 33.3
Social sciences	2,300/128 = 18	2,300/227 = 10.1
Total (non-rounded)	19,230/1,321 = 14.5	19,230/2,328 = 8.3

The average age of all permanent staff in Autumn 1965 was 44 (professors 54, associate professors 46, assistant professors 40). The average age of contract staff was 32. At the same date, 12 per cent of the permanent staff (155 people) were 60 or over and 30 per cent (396 people) 50 or over.

2. Average annual growth rates of enrolments 1956-1966

These rates were calculated from the figures supplied by the responsible authorities in answers to the "complementary questions" (Tables I and II in annex). They are summarised below in table D.

Table D

Average annual growth rates in numbers of teachers
and students in university-type institutions (1956-1966)

(in percentages)

Field of study	Teachers				Students
	SL	ML	JL	Total	
Pure science	1.7	9.2	12.1	9.9	18.9
Technology	2.6	10.8	8.9	7.8	7.9
Agriculture	0.5	11.1	10.0	7.6	5.3
Medical sciences	4.3	- 2.0	5.4	3.6	5.7
Humanities	1.4	4.1	13.0	8.2	20.0
Law	1.9	4.4	11.7	4.9	10.0
Social sciences	10.2	13.8	23.0	18.9	18.4
Total	2.8	5.6	11.0	8.3	14.1

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(1) NAVF: Utredningsavdelingen Statistisk oversikt over det vitenskapelig personale ved norske universiteter og høgskoler i 1965.

3. Structural changes in the teaching body

Table I in annex shows the percentage changes in the number of teachers at the various levels between 1956 and 1965. The figures in table E below cover all established and auxiliary full-time and part-time teachers.

Table E

Structural changes in the teaching body between 1956 and 1965

(as percentage of total teachers)

	1956-57			1965-66		
	SL	ML	JL	SL	ML	JL
Pure science	25.9	7.3	66.8	12.9	6.9	80.2
Technology	26.8	10.1	63.1	17.3	13.0	69.7
Agriculture	32.5	5.7	61.8	17.6	7.5	74.9
Medical sciences	27.2	24.9	47.9	29.0	15.2	55.8
Humanities	36.9	9.8	46.9	24.0	6.9	69.1
Education	40.0 (a)	6.7 (a)	53.3 (a)	16.1	10.7	73.2
Law	50.0	11.5	38.5	27.5	5.0	67.5
Social sciences	30.3	15.2	54.5	15.3	10.2	74.5
Total	30.6	12.5	56.9	19.1	9.9	71.0

Note: (a) Year 1958-59.

A statistical paper on teaching staff in universities and other higher educational institutes was published in Autumn 1965 (1). Some supplementary data have been extracted from it, and are summarised below.

In 1965, there were 1,321 established teachers in the Norwegian universities and other higher education institutes, of which 367 were professors, 176 associate professors and 778 assistants of various levels, distributed as shown in table F.

Eighty per cent of the professors, 54 per cent of the associate professors (middle level) and 17 per cent of the assistants (junior level) were doctors. The proportion of doctors out of the total body of established teachers was 38 per cent.

In addition to these 1,321 established teachers, there were 1,002 teaching staff composed of teachers working under contract and research personnel (2) (rekrutterings personale), bringing the total for the teaching body and research personnel in higher education to 2,323 (3).

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(1) NAVF - Utredningsavdelingen - Statistisk oversikt over det vitenskapelig personale ved norske universiteter og høgskoler i 1965.

(2) Includes scholarship holders and assistants remunerated by the institution itself, or by the Science Councils.

(3) In Autumn 1965, the same paper gave an estimated figure of 19,500 (rounded) for the number of students, and inferred the student/established research and teaching staff ratio to be 14.8, and the student/total staff ratio as 8.4.

Table F

Composition of the teaching body, by level, in 1965

Field of Study	SL		ML		JL		Total	
	Absolute number	%	Absolute number	%	Absolute number	%	Absolute number	%
Pure science (Realfag)	64	21.5	31	10.4	203	68.1	298	100
Technology (Teknikh NTH)	64	26.6	42	17.4	135	56	241	100
Medical sciences (Medisin Odontologi)	85	39.9	42	19.7	86	40.4	213	100
Agronomy (Vet medisin NUH Land. vit skap NLH)	42	29.6	16	11.3	84	59.1	142	100
Humanities (Humaniora Teologi)	74	26.9	25	9.1	176	64	275	100
Law (Jus)	11	45.8	2	8.3	11	45.8	34	100
Social sciences (Samf. vitenskap Handelsfag NHH)	27	21.1	18	14.1	83	64.8	128	100
Total	367	27.8	176	13.3	778	58.9	1,321	100

III. Composition of the teaching body

Section II above gave absolute figures for teachers classified by level, and the percentage changes for each level between 1956 and 1965. The tables given show the more than proportional increase in junior level teachers, the average percentage rising from 57 to 71 per cent in nine years. The slowest growth occurred in the number of senior level teachers.

1. Proportion of women teachers

A breakdown of the teaching body by nature of appointment (permanent teachers, teachers under contract, or research staff), sex and field of study is given in table IV in annex. The average proportion of women in university teaching staff is 8.9 per cent (207 women teachers and directors of research). Women teachers and research directors constitute 12.6 per cent (126 women) of the temporary staff, and only 6.1 per cent of the established staff (81 women). The proportions are higher in the humanities (14.9 per cent), social sciences /Sampfunnvitenskole/ (14.8 per cent) and pure sciences /Realfag/ (11.4 per cent). No women teachers or research directors are to be found in theology or in commercial science /Handelfag/. The UNESCO "World Survey of Education" (Vol.IV) reckoned 76 full-time women teachers in 1961, compared with 1,299 full-time teachers, giving about 6.2 per cent of women teachers. This percentage was confirmed by the answers to the "complementary questions" which also pointed out that there had been little change in the proportion since 1945. Figures were supplied for the numbers of women teachers by field of study and by level. The percentages of women teachers in each field of study and at each level were then calculated from them. The proportion of senior level women teachers is seen to be very small, while the largest percentage is found at junior level. It is also confirmed by this second source that they are responsible for a larger share of teaching in the humanities, pure science and social sciences than in other fields.

2. Part-time teachers

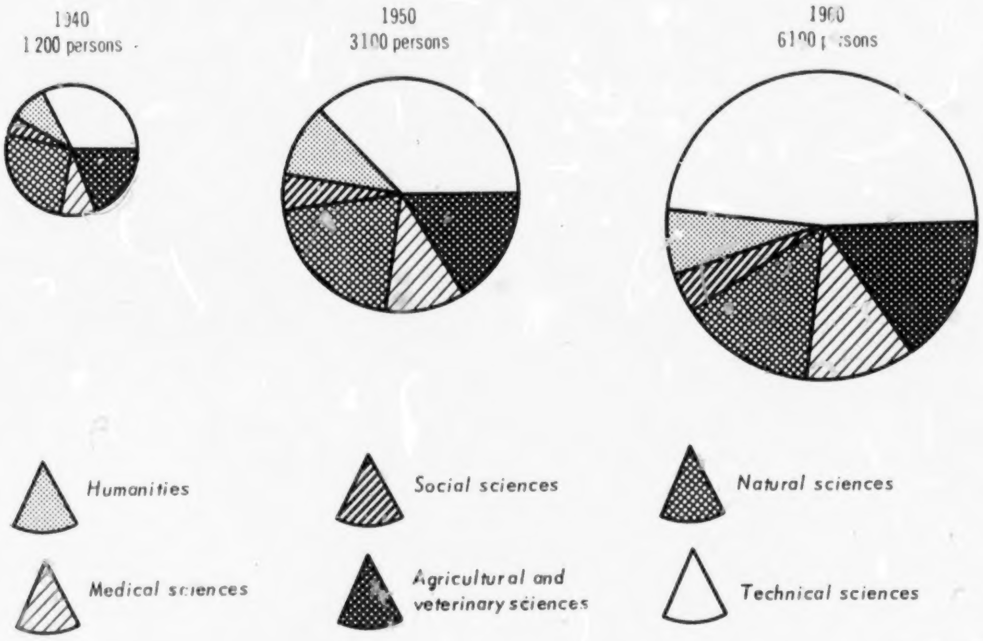
It should be possible to calculate the number of part-time teachers in 1960 by comparing table I in annex with table B in the text ("Full-time staff in university-type establishments in 1960"). The figure of 61 would thus be obtained. As, however, the two tables are based on very different sources, the number of part-time teachers shown may be an approximation rather than a precise figure. In any event, the proportion of part-time teachers seems to have been rather low - somewhere between 4 and 5 per cent.

IV. Conclusions

Generally speaking, the teacher/student ratios have changed slowly, both in total numbers and for each level of teacher. In the main fields of study, the average annual rate of increase in teaching staff is found to be higher than the rate for students only in agriculture and social sciences. Furthermore, in the latter case, this is due exclusively to the very sharp rise in the numbers of junior level teachers.

ANNEX I

FULL-TIME PERSONNEL ENGAGED IN HIGHER EDUCATION AND RESEARCH WORK IN 1940, 1950 AND 1960



Source : Answers to "complementary questions" and Ministry of Education and Ecclesiastical Affairs.

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE

COUNTRY / PAYS : NORWAY / NORVEGE
TABLE / TABLEAU : I

SL = Senior Level (a) Statut Supérieur = SS (a)
ML = Middle Level (a) Statut Moyen = SM (a)
JL = Junior Level (a) Statut Inférieur = SI (a)

Field of specialization / Branches Year / Année	PURE SCIENCE SCIENCES PURES (b)				TECHNOLOGY TECHNOLOGIE (b)				AGRICULTURE (b)				MEDICAL SCIENCE SCIENCES MEDICALES (b)				HUMANITIES LETTRES (b)				EDUCATION (b)				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES (b)				OTHER AUTRES				TOTAL			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1955-56 (c)	-	-	-	-	57	18	60	135	37	5	66	108	6(c)	5(c)	45(c)	56(c)	5(c)	3(c)	-	8(c)	-	-	-	-	-	-	-	-	10	3	12	25	158(c)	46(c)	267(c)	471(c)	273	80	450	803
1956-57	50	14	129	193	61	23	144	228	40	7	76	123	59	54	104	217	62	14	67	143	-	-	-	-	11	3	10	26	10	5	18	33	-	-	-	-	295	120	548	963
1957-58	49	13	133	195	63	23	161	247	40	7	76	123	57	24	103	184	59	15	85	159	-	-	-	-	13	2	10	25	10	5	20	35	-	-	-	-	291	89	588	968
1958-59	51	15	164	230	67	23	177	267	41	6	76	123	59	27	127	213	62	12	94	168	6	1	8	15	11	4	11	26	11	5	20	36	-	-	-	-	310	95	677	1 082
1959-60	52	18	201	271	67	23	198	288	40	8	81	129	61	29	156	246	62	15	120	197	7	2	13	22	14	6	15	35	11	5	22	38	-	-	-	-	314	106	806	1 226
1960-61	52	24	226	302	69	23	224	316	41	8	90	139	73	34	108	215	63	14	134	211	7	4	20	31	15	6	23	44	11	3	26	40	-	-	-	-	331	116	851	1 298
1962-63	54	22	285	361	71	29	254	354	40	10	110	160	71	39	127	237	67	19	161	247	8	5	29	42	14	7	24	45	13	5	29	47	-	-	-	-	338	136	1 019	1 493
1963-64	59	28	294	381	75	40	275	390	42	17	140	199	78	34	138	250	67	15	158	240	12	5	32	49	9	2	18	29	22	16	87	125	-	-	-	-	364	157	1 142	1 663
1964-65	57	30	344	431	76	47	295	418	43	19	171	233	84	40	173	297	72	17	193	282	7	6	41	54	10	1	20	31	22	18	96	136	-	-	-	-	371	178	833	1 382
1965-66	58	31	361	450	77	58	311	446	42	18	179	239	86	45	166	297	70	20	201	291	9	6	41	56	11	2	27	40	24	16	117	157	-	-	-	-	377	196	1 401	1 976

Source : Answers to "Complementary Questions"- Ministry of Education and Ecclesiastical Affairs.

Notes : (a) SL = Professors, ML = Associate Professors, JL = Other including research workers, teachers and scholarship holders.

(b) These main branches include the following courses : Pure Sciences : Pure Sciences courses at the University of Oslo and Bergen ; Technology : Courses at the Institute of Technology ; Agriculture : Veterinary Studies and School of Agriculture ; Medical Sciences : Faculties of Medical Studies (Oslo and Bergen) and Dentistry (up to 1957-58 Dentistry was taught at the School of Dentistry) From 1958 onwards it has been taught instead at the University of Oslo and from 1960-61 onwards at the University of Bergen ; Humanities : Humanities (Universities of Oslo and Bergen), Theology at the University of Oslo and at the Free Faculty of Theology ; Education : Courses at the School of Pedagogy (high education level) ; Social Sciences : Commercial training at the Institute for Commercial and Administrative Studies and, from 1963 onwards, Social Sciences.

(c) For 1955-56 the available data did not allow to make the usual breakdowns. Therefore, Medical Sciences include only Dentistry and Humanities only Theology. All other courses are included in "Others".

Source : Réponses aux "Questions complémentaires"- Ministère de l'Education et des Cultes.

Notes : (a) SS = Professeurs, SM = Professeurs associés, SI = Autres, comprenant les maîtres de recherches, boursiers, etc.

(b) La composition par branche se fait comme suit : Sciences Pures : Sciences pures enseignées aux Universités d'Oslo et de Bergen ; Technologie : enseignement donné à l'Institut d'études supérieures techniques ; Agriculture : Médecine vétérinaire et cours dispensés par l'Ecole supérieure d'Agronomie ; Sciences médicales : Médecine (universités d'Oslo et de Bergen) et Art dentaire (jusqu'en 1957-58 l'Art dentaire était enseigné à l'Ecole supérieure dentaire ; à partir de 1958-59 elle est remplacée par la Faculté dentaire de l'Université d'Oslo à laquelle s'ajoute, à partir de 1960-61 l'Institut dentaire de l'Université de Bergen) ; Lettres : Lettres (Universités d'Oslo et de Bergen) et Théologie (Université d'Oslo et Faculté libre de théologie) ; Education : cours enseignés à l'Ecole normale supérieure ; Sciences sociales : enseignement des Sciences sociales donné à l'Institut des Hautes études commerciales et administratives, auquel s'ajoutent à partir de 1963, les Sciences sociales.

(c) Pour l'année 1955-56 seulement, les statistiques disponibles ne nous ont pas permis d'effectuer les désagrégations habituelles. Ainsi les Sciences médicales comprennent seulement les cours de l'Ecole Supérieure dentaire et les Lettres uniquement la Théologie. Tous les cours dispensés par les Universités d'Oslo et de Bergen sont groupés dans la catégorie "Autres".

Table II

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS (a)

(Absolute figures and indexes)

Field of Spec. / Year	PURE SCIENCE		TECHNOLOGY		MEDICAL SCIENCES		AGRICULTURE		HUMANITIES		LAW		SOCIAL SCIENCES		TOTAL	
	TOTAL	INDEXES	TOTAL	INDEXES	TOTAL	INDEXES	TOTAL	INDEXES	TOTAL	INDEXES	TOTAL	INDEXES	TOTAL	INDEXES	TOTAL	INDEXES
1955/56	836	97	[illegible]	95	869	91	334	101	1,377	93	600	102	330	109	5,663	96
1956/57	858	100	[illegible]	100	959	100	332	100	1,482	100	591	100	303	100	5,917	100
1957/58	1,056	123	1,587	114	1,002	104	404	122	1,738	117	525	89	279	92	6,591	111
1958/59	1,370 (b)	160	1,655	119	1,092	114	435	131	2,151 (b)	145	706	119	321	106	7,730	131
1959/60	1,712 (b)	199	1,733	124	1,057	110	416	125	2,567	173	735	124	350	116	8,570	145
1960/61	2,005 (b)	234	1,834	132	1,084	113	411	124	3,000 (b)	202	711	120	401	132	9,446	160
1961/62	2,387	278	2,018	145	1,157	121	437	132	3,729	252	767	130	444	147	10,939	185
1962/63	2,774	323	2,128	153	1,187	124	456	137	4,528	306	838	142	550	182	12,461	211
1963/64	3,308	385	2,282	164	1,352	141	480	145	5,531	373	1,005	170	788	260	14,746	249
1964/65	3,741	436	2,489	179	1,440	150	510	154	6,523	440	1,193	202	1,023	338	16,919	286
1965/66	4,078	475	2,751	198	1,528	159	546	164	7,691	519	1,390	235	1,381	456	19,365	327
1966/67																

Sources : For Technology, Ministry of Education and Ecclesiastical Affairs, for other fields, the main sources are : 1955/56 - 1957/58 : Statistical Yearbooks for Education published by the Central Bureau of Statistics (NOS, Undervisnings Statistikk); 1958/59 - 1965/66 : Council for Scientific and Social Research of Norway (Norges Almenvitenskapelige Forskningsrad - NAVF) Report No. 3, 1967.

Notes : (a) For breakdowns see Table I. However, there are the following differences between Table I and Table II: Pharmacy is here included in Medical Sciences, not in Pure Sciences. Students enrolled in Teacher Training School (State College of Teachers) are included in their main field of study (Pure Science and Humanities).

(b) The distribution by type of study (Pure Science and Humanities) of students enrolled in Teacher Training School is estimated.

Table III

Female teachers by status and field of specialisation in university institutions

Year		1955/1956		1960/1961		1965/1966	
Branch and status		Absolute figures	% of all teaching staff	Absolute figures	% of all teaching staff	Absolute figures	% of all teaching staff
Pure science	SL	-	-	0	0	0	0
	ML	-	-	1	4.2	1	3.2
	JL	-	-	22	9.7	38	10.5
	T	-	-	23	7.6	39	8.7
Technology	SL	0	0	0	0	0	0
	ML	0	0	0	0	0	0
	JL	1	1.7	6	2.7	8	2.6
	T	1	1.7	6	1.9	8	1.8
Medical sciences	SL	0	0	0	0	0	0
	ML	0	0	0	0	1	2.2
	JL	7	15.6	8	7.4	18	10.8
	T	7	12.5	8	3.7	19	6.4
Agriculture	SL	0	0	0	0	0	0
	ML	0	0	1	12.5	1	5.6
	JL	4	6.1	4	4.4	8	4.5
	T	4	3.7	5	3.6	9	3.8
Humanities	SL	0	0	1	1.6	2	2.9
	ML	0	0	2	14.3	1	5.0
	JL	0	0	26	19.4	27	13.4
	T	0	0	29	13.7	30	10.3
Education	SL	-	-	1	14.3	1	11.1
	ML	-	-	1	25.0	3	50.0
	JL	-	-	1	5.0	0	0
	T	-	-	3	9.7	4	7.1
Law	SL	-	-	0	0	0	0
	ML	-	-	0	0	0	0
	JL	-	-	2	8.7	3	11.1
	T	-	-	2	4.5	3	7.5
Social sciences	SL	0	0	0	0	0	0
	ML	0	0	0	0	3	18.8
	JL	0	0	0	0	9	7.7
	T	0	0	0	0	12	7.6
Others	SL	3	1.9	-	-	-	-
	ML	3	6.5	-	-	-	-
	JL	34	12.7	-	-	-	-
	T	40	8.5	-	-	-	-
Total	SL	3	1.1	2	0.6	3	0.8
	ML	3	3.8	5	4.3	10	5.1
	JL	46	10.2	69	8.1	111	7.9
	T	52	6.5	76	5.9	124	6.3

Source: Answers to "complementary questions".

Table IV

Teaching staff by sex and field of specialisation in university institutions - 1965

	Permanents			Auxiliaries			Total		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
Humanities	224	36	260	78	17	95	302	53	355
%	86.2	13.8	100	82.1	17.9	100	85.1	14.9	100
Pure science	280	18	298	218	46	264	498	64	562
%	94.0	6.0	100	82.6	17.4	100	88.6	11.4	100
Technology	235	6	241	184	13	197	419	19	438
%	97.5	2.5	100	93.0	7.0	100	95.5	4.5	100
Social sciences	75	8	83	69	17	86	144	25	169
%	90.4	9.6	100	80.2	19.8	100	85.2	14.8	100
Commercial sciences	45	0	45	13	0	13	58	0	58
%	100	-	100	100	-	100	100	-	100
Medical sciences	159	7	166	96	19	115	255	26	281
%	25.8	4.2	100	83.5	16.5	100	90.7	9.3	100
Dentistry	45	2	47	35	3	38	80	5	85
%	95.7	4.3	100	92.1	7.9	100	94.1	5.9	100
Veterinary science	42	1	43	30	3	33	72	4	76
%	97.7	2.3	100	90.9	9.1	100	94.7	5.3	100
Agricultural science	98	1	99	126	6	132	224	7	231
%	99.0	1.0	100	95.5	4.5	100	97.0	3.0	100
Theology	15	0	15	11	0	11	26	0	26
%	100	-	100	100	-	100	100	-	100
Law	22	2	24	16	2	18	38	4	42
%	91.7	8.3	100	88.9	11.1	100	90.5	9.5	100
Total	1,240	81	1,321	876	126	1,002	2,116	207	2,323
%	93.9	6.1	100	87.4	12.6	100	91.1	8.9	100

Source: Table II, 10, h.12/NAVF utredninger our Akademisk Arbeitskraft.

Table V

Full-time academic, scientific and technological personnel at universities and state colleges in 1964, showing distribution by rank and by subjects

(Showing percentages in different ranks)

	Humanities (a)		Social sciences		Natural sciences		Life sciences		Technical sciences		Total all subjects	
	Absolute figures	%	Absolute figures	%	Absolute figures	%	Absolute figures	%	Absolute figures	%	Absolute figures	%
Professors (b)	69	24.2	45	23.2	44	13.7	135	20.1	76	18.2	369	19.5
Assistant professors (b)	28	9.8	24	12.4	28	8.7	58	8.6	47	11.2	185	9.8
Lecturers, amanuenses, curators	149	52.1	80	41.2	140	43.6	225	33.4	133	31.8	727	38.4
Research assistants(c)	21	7.3	20	10.3	95	29.6	221	32.8	117	28.0	474	25.0
Research fellows(c)	19	6.6	25	12.9	14	4.4	34	5.1	45	10.8	137	7.3
Total, all ranks	286	100	194	100	321	100	673	100	418	100	1,892	100

Source: Answers to "complementary questions".

Notes: (a) Including theology. (b) Including 6 professors and 1 assistant not paid by Government grants.
(c) Estimates.

Table VI

Showing percentages in different subjects

Professors (a)	69	18.7	45	12.2	44	11.9	135	36.6	76	20.6	369	100
Assistant professors (a)	28	15.1	24	13.0	28	15.1	58	31.4	47	25.4	185	100
Lecturers, amanuenses, curators	149	20.5	80	11.0	140	19.2	225	30.8	133	18.5	727	100
Research assistants(b)	21	4.4	20	4.2	95	20.0	221	46.6	117	24.8	474	100
Research fellows(b)	19	13.9	25	18.2	14	10.2	34	24.8	45	32.9	137	100
Total, all ranks	286	15.1	194	10.3	321	17.0	673	35.6	418	22.0	1,892	100

Source: Answers to "complementary questions".

Notes: (a) and (b) : see notes (b) and (c) on preceding table.

Table VII

Part-time professors and assistant professors in 1964

	Humanities	Social sciences	Natural sciences	Life sciences	Technical sciences	Total
University of Oslo						
Professors	1	1	2	18	-	22
Assistant professors (a)	-	-	1	38	-	39
University of Bergen						
Professors	-	-	1	-	-	1
Assistant professors (a)	-	-	-	15	-	15
Institute of Technology						
Professors	-	-	-	-	2	2
Assistant professors (a)	-	-	-	-	6	6
State College for Teachers						
Professors	-	-	-	2		2
Total						
Professors	1	1	3	20	2	27
Assistant professors (a)	-	-	1	53	6	60

The independent Theological College employs 10 persons with university-level qualifications.

Source: Answers to "complementary questions".

Note: (a) Includes: "Amanuensis", "Dosents" and "Lektors".

Table VIII

Numbers of students per academic, scientific and technological position (a) at universities and state colleges under the Ministry of Education

	1938	1946	1952	1956	1960	1962	1964
Students per position	11	12	7	7	8	8	9

Source: Answers to "complementary questions".

Note: (a) Academic, scientific and technological position.

NETHERLANDS

I. Criteria for the recruitment and promotion of teaching staff

In a study on university teachers in the Netherlands (1), Dr. P. Walstra has defined the main categories of the academic staff as follows:

(1) Professors: full-time, members of the Senate and the Faculty in which they teach; many are heads of departments. In 1965 they were about 1,100.

(2) Extraordinary professors: part-time only, but fulfilling the same functions as professors. There were about 300 of these in 1965.

(3) Readers: lower in rank than professors; may be responsible for courses similar to those of professors, but rarely in charge of a department; not members of the Senate, but sometimes attend faculty meetings in an advisory capacity. There were about 350 of them in 1965.

(4) In the same period there were about 2,500 scientific collaborators, normally attached to individual professors; they usually do more research than teaching. In the early '60's their teaching duties tended to increase appreciably owing to the shortage of senior level teachers.

There is no formal requirement for becoming a university teacher, even for senior level teachers. In practice, however, it is nearly always necessary to have a higher level university degree and to have carried out research or other individual work attesting to a wide knowledge in the field of the subject taught.

Answers to the "complementary questions" have shown that there were practically no university teachers without adequate qualifications.

Whether a post carries the rank of professor or reader depends on the relative importance of the subject taught rather than the qualifications of the person teaching it.

Promotion is possible only through appointment; it is not automatic. For professors and readers, there is no probationary period. Extraordinary professors are always appointed on a temporary basis.

A teacher may request leave of absence for one year to take up a post abroad, in particular, in the developing countries. In some cases this leave may be prolonged. No special regulations exist for foreign teachers appointed to a university in the Netherlands.

II. Trends in numbers of teachers and students in higher university education between 1951 and 1958

The numerical data on university teachers in the Netherlands are few and incomplete. However, they give a general idea of the situation between 1951-52 and 1958-59.

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(1) The Recruitment and Training of University Teachers, 1967 (IAUPL).

The institutions considered in this study are those defined by Netherlands law as providing university education (1).

Moreover, it seems that the available statistics show only the number of senior level and middle level teachers. Professors ("gewoon hoogleraren", "buitengewoon" and "bijzonder") have been considered as senior level, "privat docenten", "lectoren" and "anders docenten" have been included with middle level teachers.

1. Student/teacher ratios and numbers

Tables I and II in annex show the number of senior and middle level teachers and student enrolments from 1950 to 1958.

However, some indication of the number of junior level collaborators may be found in Dr. Walstra's survey, where the number of scientific collaborators is estimated at 2,500.

In addition, answers to the "complementary questions" showed that 2,958 scientific assistants and collaborators were attached to the universities in 1958. It has not been possible to discover what proportion of these had teaching duties.

If these 2,958 persons are added to the 1,646 teachers shown for 1958, this gives a total university staff of 4,603. Although the student/teacher ratio based on this figure is not really satisfactory, it nevertheless seems more suitable for purposes of international comparison, especially with the Scandinavian countries where research and teaching duties are closely connected. In 1958 this ratio would therefore be 7.6.

Table A below gives the student/teacher ratios as calculated from tables I and II in annex.

Since, for most countries, it was not possible to correct for double counting, it seemed preferable to take into consideration - even though it is less precise - the sum of the teachers resulting from the addition of teachers by field of study.

All things considered, the two overall student/teacher ratios for senior and middle level teachers combined, after elimination of double counting, i.e. 23.2 in 1958 and 28.2 in 1950, give a better approximation to the real quantitative situation.

2. Annual average growth rates by field of study between 1950 and 1958

Table B below shows the growth in numbers of teachers and students for the period studied.

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(1) In 1965/66, there were 12 institutions of this level:

- six universities: three State, one municipal and two private;
- three technical universities providing training in technology and architecture ("Technische Hogeschoolen");
- two universities providing training in economics and social science ("Nederlandse Economische Hogeschool te Rotterdam" and "Katholieke Hogeschool te Tilburg");
- one university specialising in agriculture ("Landbouwhogeschool te Wageningen").

One institution was created during the period under survey: the technical university at Eindhoven (in 1957/58).

In addition to these institutions, there is a College of Calvinist Theology in Kampen but in the absence of adequate statistical data, this institution has not been considered in the survey.

(Development of Higher Education, 1950-1967 - Statistical Survey , OECD, Paris, 1970).

Table A

Student/teacher ratios by field of study and level of teaching staff (senior and middle only) in university level higher education in 1950 and 1958

Field of study		S/SL	S/ML	S/Total
Pure science	1950	29.8	31.1	17.4
	1958	31.3	50.4	19.3
Technology	1950	49.7	181.1	39.0
	1958	36.6	98.0	26.6
Medical sciences	1950	82.6	127.3	50.1
	1958	42.2	53.4	23.6
Agriculture	1950	32.3	46.2	19.0
	1958	20.1	30.4	12.1
Humanities	1950	18.9	46.1	13.4
	1958	29.4	56.8	19.4
Law	1950	42.8	135.5	32.5
	1958	26.8	84.6	20.3
Social sciences	1950	46.0	94.4	31.0
	1958	38.3	80.3	25.9
Total	1950	39.3	82.1	26.6
	1958	32.7	61.4	21.4

Table B

Annual average growth rates in numbers of university staff and students (1950-58)

(in percentages)

Field of study	Teachers			Students
	SL	ML	Total SL + ML	
Pure science	5.2	4.0	4.8	5.8
Technology and architecture	6.1	10.3	7.2	7.2
Medical sciences	8.0	6.5	5.4	-3.1
Agriculture	3.9	3.2	3.6	-2.1
Humanities	3.5	6.6	4.5	9.4
Law	3.2	3.2	3.2	-2.6
Social sciences	3.6	3.8	3.7	1.5
Total	4.5	5.9	4.9	2.1

A general tendency for senior and middle level staff to increase relatively faster than students between 1950 and 1958 can be observed.

Exceptions to this general trend will be noted for pure science, for senior level staff in technology and for the humanities.

It did not seem opportune to deal at this point with structural changes in the teaching profession owing to the lack of data on junior level teachers. As an indication, however, the proportions of senior and middle level teachers in total teaching staff for 1950 and 1958 are given in table C.

Table C

Structural changes in the teaching staff for university type higher education

(1950 and 1958)

(in percentages)

Status Field of study		SL	ML
Pure science	1950	59.6	40.4
	1958	61.6	38.4
Technology	1950	78.5	21.5
	1958	72.8	27.2
Medical sciences	1950	60.6	39.4
	1958	55.9	44.1
Agriculture	1950	58.8	41.2
	1958	60.2	39.8
Humanities	1950	70.9	29.1
	1958	65.9	34.1
Law	1950	76.0	24.0
	1958	76.0	24.0
Social sciences	1950	67.2	32.8
	1958	67.7	32.3
Total	1950	67.6	32.4
	1958	65.2	34.8

Source: see table I, annex I.

Although non-university level higher education exists in the Netherlands (in 1961-62 there were 44,928 students in the public and private teacher training colleges, and 23,262 students in the public and private technical colleges) it has not been possible to obtain adequate material on the staff teaching in these schools.

III. Composition of the teaching body

The first point to note is that according to answers to the complementary questions, "no information is available concerning a possible shortage of teachers in the universities."

For most of the countries studied the available data have made it possible to cite the vital role played by junior level teachers in meeting requirements. The figures available for the Netherlands do not cover junior level teachers. It is therefore to be feared that our analysis of the composition of the teaching body will be very incomplete.

1. Proportion of women teachers

According to UNESCO figures there were 1,517 teachers in 11 public and private universities in 1958-59. Of these 50 were women. The percentage of women teachers was therefore 3.3.

According to answers to the "complementary questions" there were 24 women teachers in the humanities, nine in pure science, six in medical sciences, four in technology, four in agriculture and two in social sciences. The part played by women teachers in higher education seems to have increased hardly at all since 1950.

2. Part-time teaching and overtime

In answers to the "complementary questions", it also emerged that several university teachers also teach more often than not in other non-university higher education institutions.

It was not possible to ascertain the part played by overtime.

Finally, according to Dr. P. Walstra (1), the recruitment of staff is influenced by certain discriminatory factors such as sex, race, social origin, and the religious or political views of the candidate. However in some fields of study (such as technology, for instance), the shortage of competent candidates has led to a partial relaxation of initial requirements.

IV. Conclusions

In short, trends in student numbers in the Netherlands have varied greatly according to the fields of study considered. Growth seems to have been particularly rapid in technology and the humanities. On the other hand, the number of students in the medical sciences, agriculture and law has fallen. This explains the fairly limited increase in the total number of students between 1950 and 1958.

The total number of senior and middle level teachers increased by 45 per cent between 1950 and 1958. This increase in the number of teachers has been an essential feature in all fields of study. In the least favourable fields it was nearly 30 per cent in eight years. It is curious to observe that in medical sciences, agriculture and law the increase in teaching staff was often quite large compared to the other fields of study, whereas student numbers in these subjects decreased.

---

(1) The Recruitment and Training of University Teachers, 1967 (IAUPL).

ANNEX I

Table I

Teaching staff by status and field of specialisation in university institutions
(full-time and part-time)

(SL and ML teachers only)

Field of special-isation	Pure science			Technology			Medical sciences			Agri-culture (a)			Humanities (b)			Law			Social sciences (c)			Total		
Year	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T	SL	ML	T
1950-51	115	78	193	113	31	144	94	61	155	50	35	85	227	93	320	76	24	100	82	40	122	757	362	1,119 1,053(1950)(d)
1955-56	146	100	246	130	44	174	125	107	232	62	42	104	260	137	397	93	31	124	101	61	162	917	522	1,439 1,367(1955)(d)
1958-59	172	107	279	182	68	250	143	113	256	68	45	113	299	155	454	98	31	129	111	53	164	1,073	572	1,645 1,517(1958)(d)

Source: Statistiek van het Wetenschappelisk Onderwijs and Answers to "complementary questions".

Notes:
(a) Includes agriculture and veterinary sciences;
(b) Includes humanities, philosophy and theology;
(c) Includes political, social and economic sciences;
(d) The second figure was supplied by the Central Bureau of Statistics and corresponds to the actual number of teachers.

INDEXES

1950-51	100	100	100	100	100	100	100	100
1955-56	127	121	150	122	124	124	133	130 129(1955)(e)
1958-59	145	174	165	133	142	129	134	144 147(1958)(e)

Note: (e) The first index corresponds to total: SL + ML; the second index was supplied by the Central Bureau of Statistics (see note (d) above).

Table II - Absolute figures and indexes

Student enrolments in university institutions

Years / Field of specialisation	1950/1951		1955/1956		1958/1959	
	Absolute figures	Indexes	Absolute figures	Indexes	Absolute figures	Indexes
Pure science	3,424	100	4,283	125	5,392	157
Technology and architecture	5,615	100	5,062	90	6,661	119
Medical sciences	7,765	100	6,335	82	6,031	78
Agriculture and veterinary science	1,616	100	1,278	79	1,370	85
Humanities	4,289	100	6,314	147	8,800	205
Law	3,251	100	2,538	78	2,623	81
Social sciences	3,776	100	3,832	101	4,254	113
Total	29,736	100	29,642	100	35,131	118

Source: See table I.

PORTUGAL

I. Criteria for the recruitment and promotion of teaching staff

In Portuguese universities the various levels in the academic hierarchy are, in ascending order, as follows:

> Assistants: who have generally taken a first degree ("Licenciatura"); if they hold a doctor's degree they can be appointed senior assistants.
>
> Associate professors are recruited by public competitive examinations open to holders of a doctor's degree in the relevant branch of study. Attainment of an adequate standard in this examination qualifies those candidates who are not selected as associate professors for the title of "agregado".
>
> Recruitment to posts of full professor is also by public examination, which is open to associate professors with at least two years' teaching experience, full professors of other chairs, and lecturers or doctors who have specialised in the relevant subject.
>
> In the case of scholars or artists of established reputation, chairs may be awarded without examination.

Professors may not exercise public functions other than teaching but they have the right to take up or to continue to pursue an outside professional activity. This means that in practice many teachers engage in parallel activities, and sometimes devote too little time to teaching. It has been suggested that the main reason for this state of affairs is the low rates of pay accorded to university staff.

Full professors give courses, direct practical work and do research. Associate professors do not always give regular courses, but otherwise their functions are similar to those of full professors. The duties of the assistants vary widely, and largely depend on the needs of the moment and what the head of the department gives them to do.

II. Trends in numbers of teachers and students in higher education

No distinction has been made between university and non-university higher education in Portugal. It has not been possible to make a statistical breakdown by level of teachers except partially for the period 1964-65.

1. Student/teacher ratios and numbers

Total numbers of teachers and students for the period 1956-66 are given in tables I and II in annex. Table III in annex shows the number of professors and other teachers in 1964 by field of study. The latter figures are rather different from those for the same year in table I. Divergencies are particularly pronounced in the humanities, fine arts and the social sciences. It is not known why this is so.

Table A below shows trends in student/teacher ratios between 1956 and 1966.

2. Annual average rates of growth in staff and student numbers in higher education

In order to keep the statistical series homogeneous and obtain really representative growth rates, the period from 1957 to 1966 has been chosen. The rates are shown in table B.

3. Breakdown by level of teachers

An approximate idea of this breakdown will be found in table III in annex for 1964-1965 and is given below for 1961-1962.

Table A

Student/teacher ratios in higher education overall and by field of study in 1956 and 1966 (a)

	1956	1966
Pure science	19.8	21.4
Technology	16.1	17.1
Medical sciences	15.1	12.3
Agriculture	7.7	10.9
Humanities	(1957) 10.3 (b)	17.4
Education	7.4	3.5
Fine arts	(c)	(c)
Law	5.0	7.2
Social sciences	8.3	20.6
Other subjects	9.1	7.1
Total	(1957) 13.4 (d)	16.6

Source: Tables I and II in annex.

Notes:
(a) The reservations and comments accompanying tables I and II in the annex also apply to this table.
(b) Owing to certain changes in the method of compiling statistics of teachers in the humanities (see note (a) to table I in annex), the student/teacher ratio for 1957 is considerably lower than that for 1956 (79.5). This is why 1957 and not 1956 was chosen as the beginning of the period.
(c) Owing to these constant statistical changes the student/teacher ratios are not significant here except for the period 1960-65 (4.6 and 5.4).
(d) In 1950 the student/teacher ratio was 22.6. Owing to a number of changes in the method of compiling statistics on teachers (see note (a) to table I in annex), the ratio for 1956 is probably meaningless.

Table B

Annual average growth rates by field of study for staff of all levels and students (1957-1966)

(in percentages)

	Teachers	Students
Pure science	8.8	8.5
Technology	4.0	4.0
Medical sciences	4.4	2.5
Agriculture	1.9	5.8
Humanities	1.5	7.5
Education	(1959-66) 5.3	16.8
Fine arts	0.6	0.9
Law	1.4	4.6
Social sciences	5.1	16.1
Other subjects	4.1	1.7
Total	4.1	6.6

Table C

Teaching staff - breakdown by categories
(1961-1962)

Higher education	1961-62
Categories	%
Full professors ("catedraticos")	25.3
Extraordinary professors ("extraordinarios")	7.8
Professors under contract ("contratados")	3.1
Senior assistants	18.5
Junior assistants	43.2
Teachers of foreign languages	2.1

Source: MRP Report/Portugal, OECD, Paris (1966); (CEEE School Survey, 1962).

III. Composition of the teaching body in higher education in the early 'sixties

The MRP report by the OECD in 1966 drew attention to the shortage of teachers. To help relieve the situation, a large number of assistants were appointed, but these are not qualified to give courses.

1. The shortage of teachers

"The shortage of teachers is so acute that students sometimes have to be asked to act as assistants. This means that the staff is insufficient and badly adapted to the present needs, while at the same time posts remain empty, waiting to be filled by qualified teachers or teachers from other categories".(1) Indeed, according to the same survey, only 39 per cent of posts offered to the extraordinary professors were filled in 1966, whereas over 40 per cent of the teaching body are junior assistants, a percentage far higher than that provided for under the legislation.(2)

"Potential candidates are put off by the long period of study and the many competitive examinations leading to the top university posts. In addition the salaries are relatively low, particularly if compared with those offered by many public and private organisations. Consequently most of the teachers yield to the temptation to spend some, if not most, of the time doing work outside the university. Sometimes when fellowships are inadequate or impossible to obtain,teachers will give extra classes to the detriment of their main teaching or research work."

"This teacher shortage means that many have to give extra classes and the number of students to each teacher rises considerably. The survey showed that it is at this level that teachers are the most overloaded in spite of the fact that they are required to teach relatively few hours per week.(3) Indeed, an established professor who apart from his lectures directs practical work is only obliged to do a minimum of statutory hours, i.e. from one to three hours. The "extraordinarios" have to teach for six hours a week and also take charge of practical work. The assistants teach for twelve hours a week (practical work) but in actual fact do much more as they are asked to give lectures as well because of the shortage of teachers."(4)

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(1) MRP Report/Portugal, OECD, Paris (1966).

(2) See table F.

(3) See table E.

(4) MRP Report/Portugal, OECD, Paris (1966).

The following tables are based on a survey of higher education institutions carried out in 1962:

Table D

Teaching staff
Breakdown by hours taught per week

Higher education	1961-62
Number of hours of teaching	%
3 or less	16.0
4 to 6	21.9
7 to 9	10.8
10 to 12	24.2
13 to 15	7.5
16 to 18	9.6
19 and more	10.0

Source: MRP Report/Portugal, OECD, Paris (1966);
(CEEE School Survey, 1962).

Table E

Teaching staff
Breakdown by degree of intensity of teaching duties

Higher education	1961-62
Degree of intensity of teaching duties	%
Excessive	43.4
Full-time	32.1
Part-time	24.5

Source: MRP Report/Portugal, OECD, Paris (1966);
(CEEE School Survey, 1962).

Table F

Teaching staff
Percentage of posts filled by a particular level of teaching staff

Higher education	1961-62
Categories	%
Full professors ("catedraticos")	72.6
Extraordinary professors ("extraordinaries")	39.2
Senior assistants	93.0
Junior assistants	266.9
Teachers of foreign languages	180.0

Source: MRP Report/Portugal, OECD, Paris (1966);
(CEEE School Survey, 1962).

These summary figures emphasize the seriousness of the quantitative situation in 1961-62.

It is difficult to say whether there was a quantitative deterioration during the period 1950-1960. At least, the student/teacher ratio which was already very high in 1950 did not greatly increase during this decade as will be seen from the following table:

Table G

Trend in the student/teacher ratio

Higher education

Year	Ratio (a)
1950/51	17.8
1951/52	18.7
1952/53	18.9
1953/54	18.9
1954/55	18.5
1955/56	19.0
1956/57	20.0
1957/58	20.4
1958/59	19.8
1959/60	19.2
1960/61	20.5

Source: See source for preceding tables.

Note: (a) In the academic years 1954-55, 1955-56 and 1960-61 the figures for music and dramatic arts were included in the calculations for the ratio.

There are, however, grounds for believing that this ratio was maintained in the neighbourhood of 20 largely owing to the increase in the number of assistants who, in view of the shortage of qualified staff, were sometimes assigned duties they were not qualified to undertake.

It should also be noted that the student/teacher ratio in the private sector is definitely lower (about 5). But this sector provides religious education given by teachers who devote only part of their time to it. There is consequently little significance in this ratio as a reflection of the real student/teacher ratio.

2. Proportion of women teachers

In the "World Survey of Education" (Vol.IV) UNESCO has examined the quantitative trend among students and teachers in 20 universities and university-type institutions awarding equivalent degrees. This trend is summarised in table H for the period 1957-58/1960-61.

Table H

Numbers of teachers and students and proportion of women teachers in university institutions

	Number of institutions	Full-time and part-time teachers	Full-time and part-time students
1960/61	20	882 (including 96 women)	19,761
Public university-type institutions	7	277 (including 7 women)	4,658
State universities	13	605 (including 89 women)	15,103
1959/60	20	867	18,318
1958/59	20	805	17,189
1957/58	20	750	16,312

According to this table, the student/teacher ratio increased from 21.7 in 1957 to 22.4 in 1960. Moreover, the percentage of women teachers was 2.5 per cent in the public university-type institutions, 14.7 per cent in the universities, and 10.9 per cent in the 20 institutions included in the 1960 UNESCO survey.

IV. Conclusions

The trends in numbers of teachers and students in higher education between 1956 and 1966 show a certain increase in the student/teacher ratio. This increase is particularly noticeable in agriculture, the humanities, education, law and social sciences.

According to a survey of teaching institutions in 1962, over 40 per cent of the teaching staff were overburdened with teaching duties. This means they were teaching more than the number of hours established by law.

ANNEX I

ANNEXE I

TEACHING STAFF BY FIELD OF SPECIALISATION IN ALL HIGHER EDUCATION
PERSONNEL ENSEIGNANT PAR BRANCHE DANS LES ETABLISSEMENTS D'ENSEIGNEMENT SUPERIEUR

Country : PORTUGAL
Pays :

Table : I - Absolute figures & Indexes
Tableau : I - Chiffres absolus & Indices

Field of specialization/ Branches Year/ Année	PURE SCIENCE SCIENCES PURES		TECHNOLOGY TECHNOLOGIE		MEDICAL SCIENCE SCIENCES MEDICALES		AGRICULTURE		HUMANITIES LETTRES		EDUCATION		FINE ARTS BEAUX ARTS		LAW DROIT		SOCIAL SCIENCES SCIENCES SOCIALES		OTHER AUTRES		TOTAL (e)	
	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND	T	IND
1956/57	141	102	128	101	253	97	62	107	(a)	(a)	14(b)		95	82	42	93	160	91	94	94		---
1957/58	138	100	127	100	260	100	58	100	486	100	17(b)		116	100	45	100	176	100	100	100	1 523	100
1958/59	148	107	124	98	289	111	60	103	(a)	(a)			50 (d)	43(d)	44	98	207	118	100	100		---
1959/60	154	102	118	93	321	123	64	110	460	95	79(c)	100(c)	79	68	50	111	175	99	107	107	1 607	106
1960/61	172	125	122	96	333	128	63	109	469	97	78(c)	99(c)	77	66	45	100	173	98	113	113	1 645	108
1961/62	183	133	134	106	359	138	60	103	516	106	83(c)	105(c)	87	75	50	111	162	92	127	127	1 761	116
1962/63	203	147	136	107	368	142	60	103	552	114	85(c)	108(c)	97	84	47	104	183	104	137	137	1 868	123
1963/64	224	162	157	124	374	144	68	117	529	109	86(c)	109(c)	98	84	49	109	200	114	146	146	1 931	127
1964/65	282	204	164	129	370	142	69	119	512	105	95(c)	120(c)	104	90	51	113	224	127	141	141	2 012	132
1965/66	284	206	164	129	389	150	68	117	527	108	110(c)	139(c)	115	99	52	116	257	146	141	141	2 107	138
1966/67	294	213	180	142	381	147	69	119	554	114	114(c)	144(c)	122	105	51	113	276	157	143	143	2 184	143

Source : Answers to "Complementary questions".
Notes : (a) A statistical change has occured in 1957. This explains the apparent important growth of the number of teachers this year.
(b) Does not include the secondary level Schools of Teacher Training but includes the teaching staff in Schools for Physical Training.
(c) Includes Physical Training teachers.
(d) Does not include Institutions for Artistic Studies
(e) For the years 1950/51 to 1955/56, the total number of teachers increased as follows :
1950/51 = 806)
1951/52 = 819) Does not include Institutions for Artistic
1952/53 = 820) Studies and the Nautical School.
1953/54 = 841)

1954/55 = 863) Does not include Institutions for Artistic
1955/56 = 871) Studies, the Nautical School, the secondary level Schools of Pedagogy, the Institute for Physical Training and the Schools of Fine Arts.

Source : Réponses aux "Questions complémentaires".
Notes : (a) Une différence de classification statistique intervient en 1957, ce qui explique le brusque accroissement apparent du corps enseignant cette année là.
(b) N'inclut pas les Ecoles normales secondaires. Inclut le personnel enseignant du cours des professeurs et moniteurs des Ecoles d'Education physique.
(c) Inclut le cours des moniteurs des écoles d'Education physique.
(d) N'inclut pas les établissements d'enseignement artistique supérieur.
(e) Pour les années 1950/51 à 1955/56 le nombre total des enseignants a évolué comme suit :
1950/51 = 806)
1951/52 = 819) N'inclut pas les établissements d'enseigne-
1952/53 = 820) ment artistique supérieur et l'Ecole
1953/54 = 841) de marine.

1954/55 = 863) N'inclut pas les établissements d'enseigne-
1955/56 = 871) ment artistique supérieur, l'Ecole de marine, les Ecoles normales secondaires, l'Institut d'Education physique et les écoles des beaux-arts.

Table II

STUDENT ENROLMENTS IN ALL HIGHER EDUCATION

(Absolute figures and indexes)

Year \ Field of Special.	PURE SCIENCE(a)		TECHNO-LOGY(b)		MEDICAL SCIENCE(c)		AGRI-CULTURE(d)		HUMA-NITIES(e)		EDUCA-TION(f)		FINE ARTS(g)		LAW(h)		SOCIAL SCIENCES(i)		OTHER(j)		TOTAL(k)	
	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES	TO-TAL	IND-EXES
1956/57	2,790	93	2,055	94	3,821	101	480	107	5,091	101	104 (1)		974	94	2,119	87	1,325	90	857	100	19,616	96
1957/58	3,016	100	2,175	100	3,766	100	449	100	5,031	100	17[illegible] (1)		1,039	100	2,445	100	1,477	100	861	100	20,430	100
1958/59	3,405	113	2,191	101	3,786	101	480	107	5,147	102	315 (1)	100 (1)	1,023	98	2,569	105	1,709	116	925	107	21,550	105
1959/60	3,974	132	2,184	100	3,676	98	497	111	5,380	107	324 (1)	103 (1)	1,054	101	2,797	114	1,926	130	993	115	22,805	112
1960/61	4,562	151	2,312	106	3,610	96	551	123	5,973	119	359 (1)	114 (1)	1,140	110	2,913	119	2,095	142	997	116	24,508	120
1961/62	5,205	173	2,178	100	3,446	92	565	126	6,472	129	390 (1)	124 (1)	1,197	115	2,755	113	2,284	155	1,291	150	25,783	126
1962/63	5,556	184	2,310	106	3,377	90	594	132	7,055	140	349	111	1,114	107	2,929	120	2,589	175	1,400	163	27,273	133
1963/64	5,861	194	2,449	113	3,502	93	623	139	7,858	156	389 (1)	123 (1)	1,090	105	2,936	120	4,030	273	1,439	167	30,177	148
1964/65	6,129	203	2,488	114	3,677	98	651	145	8,638	172	357	113	1,109	107	3,103	127	4,404	298	1,376	160	31,932	156
1965/66	6,230	207	2,766	127	4,259	113	731	163	9,233	184	594 (1)	189 (1)	1,116	107	3,346	137	5,102	345	1,189	138	34,566	169
1966/67	6,292	209	3,084	142	4,701	125	752	167	9,634	191	399	127	1,123	108	3,661	150	5,673	384	1,013	118	36,332	178

Source : Answers to "complementary questions".

Notes :
(a) **Science faculties;**
(b) **Includes courses at the Institute of Technology and at the Faculty of Technology;**
(c) **Includes courses at the Faculty of Medicine, the Faculty and various schools of Pharmacy and the technical schools for nurses;**
(d) **Includes courses at the Institute of Agronomy and at the School for Veterinarians;**
(e) **Includes Schools of Humanities, Philosophy, Theology of confessional Universities and the Pontifical Faculty of Philosophy;**
(f) **Includes secondary teacher training Schools and Schools for Physical Training.**
(g) Includes schools for Fine Arts and some Institutes for Artistic Studies;
(h) Faculties of Law;
(i) Includes courses at the Faculty of Economy from the Institute for Economical and Financing Sciences, from the Institute of Social Sciences and Overseas Policy, from the Institute of Social Services and the School for Scientific Organisation of Work;
(j) Includes Nautical and Navy schools and the Military Academy;
(k) Architecture does not appear in this Table, the results being unknown; moreover, for the years 1950/51 to 1955/56, the students enrolments are the following: 1950/51 = 16,184; 1951/52 = 16,667; 1952/53 = 16,884; 1953/54 = 17,562; 1954/55 = 18,345; 1955/56 = 19,070.
(1) Includes courses at secondary level for Physical Training.

Table III

Teaching staff by status and field of specialisation in university institutions
(detailed figures for 1964/65)

		1964/1965	
		Total	Percentages
Pure science	SL	63	26.3
	ML+JL	177	73.7
	T	240	100.0
Technology	SL	40	25.2
	ML+JL	119	74.8
	T	159	100.0
Medical sciences	SL	101	29.8
	ML+JL	238	70.2
	T	339	100.0
Agriculture	SL	37	58.7
	ML+JL	26	41.3
	T	63	100.0
Humanities	SL	26	19.1
	ML+JL	110	80.9
	T	136	100.0
Fine arts	SL	-	-
	ML+JL	13	100.0
	T	13	100.0
Law	SL	22	43.1
	ML+JL	29	56.9
	T	51	100.0
Social sciences	SL	30	28.6
	ML+JL	75	71.4
	T	105	100.0
Total	SL	319	28.8
	ML+JL	787	71.2
	T	1,106	100.0

Source: Answer to "complementary questions" - Planeamento da investigação em relação com o desenvoloimento economico (projecto das equipas piloto).

UNITED KINGDOM

Criteria for the recruitment and promotion of teaching staff (1)

There are no precise rules for the recruitment of university teachers. They must simply possess the qualifications and specialisations needed to fulfil their duties at the university. Each university selects its staff according to its own criteria, so that any teacher appointed to a post can be presumed to be adequately qualified. The qualifications asked for usually relate exclusively to the subject to be taught, and there is no insistence on an advanced level of study on a broader front or previous teaching experience. Universities tend to recruit their teaching staff from people with "a good honours degree", the reference being to a first degree. Many of these teachers have already passed examinations at a higher level or will do so subsequently (2).

A university teacher is on average 26 years old when first appointed. He does a three-year probationary period as an assistant or assistant lecturer, after which he is usually appointed as lecturer. From then on a university career is normally open to him and promotion thereafter virtually automatic, although the speed of advancement may vary.

In practice, the average age for appointment to reader is about 40. The retirement age is 65 in England and 70 in Scotland.

The Robbins Report (3) classified the qualifications of teachers (for the period 1961-62) by major fields of study:

	Percentage of doctorates	Percentage of Master's degrees	Percentage of First degrees
Humanities	29	19	52
Social sciences	24	20	56
Science	72	7	21
Applied science	45	17	38
Medical sciences	48	9	43

Source: Robbins Report, Appendix 3, table 17.

This table shows that the further qualification of a doctorate is far more essential in scientific and technological fields that in the humanities or social sciences.

Furthermore, doctoral theses in the humanities, philosophy, law and social sciences often call for much lengthier and more detailed work than in fields such as medicine (4).

Almost all university teachers in the United Kingdom work on a full-time basis, except those teaching medical subjects, who are often specialists and do not confine their activities to teaching. In architecture and law there is likewise frequently a demand for practising experts who are well-known in their particular field. Furthermore, in science and some specific fields in the arts, part-time staff appointments are made at junior level from among young graduates who are engaged in special research or studies at a higher level. The full-time staff consists for the most part of professors and lecturers of the various categories (senior or middle level teachers).

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(1) Answer to "complementary questions".

(2) Studies done in Irish universities are also included here.

(3) Higher Education - Report of the Committee appointed by the Prime Minister under the Chairmanship of Lord Robbins, 1961-63 - London (HMSO).

(4) Sources: M.J. Crook: The Status of University Teachers in the United Kingdom (IAUPL).
F.T.J. Fletcher: The Recruitment and Training of University Teachers (IAUPL).

Great Britain

I. Trends in numbers of teachers and students

A. University education

1. Student/teacher ratios and numbers

Tables I and II in annex show the numbers of teachers and students in the years 1953 to 1966. It is important to note straight away that the classification of teachers seems to have undergone radical changes in 1965-1966, and the statistical series generally seems to have been deliberately interrupted in 1964.

Furthermore, the numerical data on teachers in table I in annex relate solely to full-time teachers who make a direct and important contribution to academic work (teaching and/or research) and those posts are wholly financed by the university.

In table A the student/teacher ratios have therefore been calculated for three years: 1953 and 1964 (the beginning and end of the period studied separately) and 1966. The ratios shown for 1966 should not be compared with those for the earlier years.

Table A

Full-time student/full-time teacher ratios by field of study and level of teaching staff in universities, 1953, 1964 and 1966 (a)

Field of study		S/SL	S/ML	S/JL	S/SL+ML	S/Total
Pure science	1953	60.4	11.8	33.5	9.9	7.6
	1964	67.7	11.6	33.0	9.9	7.6
Physical sciences (b)	1966	99.7	13.8	56.9	12.1	10.0
Physical sciences + biological sciences (b)	1966	74.5	10.7	42.7	9.4	7.7
Technology	1953	86.5	11.7	53.4	10.3	8.6
	1964	87.7	12.0	56.8	10.5	8.9
	1966	140.7	14.5	138.4	13.1	12.0
Medical sciences	1953	55.4	12.6	35.2	10.2	7.9
	1964	38.2	8.5	27.9	6.9	5.6
	1966	35.5	8.6	36.1	7.2	6.0
Agriculture	1953	60.0	10.6	8.8	9.0	4.5
	1964	51.1	7.2	9.6	6.3	3.8
	1966	54.9	7.1	25.2	6.3	5.0
Humanities	1953	57.8	16.4	48.1	12.8	10.1
	1964	68.6	15.3	53.8	12.5	10.1
	(c) 1966	58.9	11.8	35.8	9.8	7.7
Social sciences	1959	74.4	20.1	76.6	15.8	13.1
	1964	67.7	15.5	44.3	12.6	9.8
	1966	91.2	16.0	52.3	13.6	10.8
Total (d)	1953	60.4	13.5	36.3	11.1	8.5
	1964	63.8	12.3	38.2	10.3	8.1
	1966	69.8	10.8	46.2	9.4	7.8

Notes: (a) The bases for drawing up the data were changed as from 1965/1966. There are some disparities between teachers and students in the breakdowns by field of study. The figures for this year are therefore difficult to compare with those of 1953 and 1964.

(b) As the basis for calculating the figures was changed as from 1965, these two subjects were introduced at this date in place of pure science. Hence, rates were calculated for physical sciences and for physical sciences + biological sciences, as the latter appeared more comparable with the ratios calculated for pure science in 1953 and 1964.

(c) The humanities included education up to 1964-65, but there are separate statistics for education as from 1965-1966.

(d) As there was no breakdown by field of study for part-time students, overall student/teacher ratios could not be calculated. However, these ratios for the overall totals are given below for comparison:

	S/SL:	S/ML:	S/JL:	S/ML+SL:	S/T:
1953	72.2	16.2	43.4	13.2	10.1
1964	72.1	13.9	43.2	11.7	9.2
1966	76.1	11.8	50.3	10.2	8.5

Supplementary information

The UGC (1) was able to calculate other student/teacher ratios for the 1964 autumn term, covering all universities in the United Kingdom except Oxford, Cambridge and the New Universities. They are summarised in the following table:

Table A'

Student/teacher ratios calculated by the UGC for 1964

	Humanities (1)	Social sciences (2)	(1) + (2) (3)	Science (4)	Medical sciences and dentistry (5)	All (excluding medical sciences) (6)	All subjects (7)
Unweighted ratios	9.8	8.8	9.5	7.1	5.6	8.1	7.6
Weighted ratios (a)	10.6	13.0	11.2	9.8	6.9	10.7	9.9

Note: (a) The weighting is that adopted by the UGC. Post-graduate students in humanities and social sciences receive the coefficient 2 and those reading scientific and medical sciences subjects have the coefficient 3, while all other students have the coefficient 1.

Source: Fifth Report from the Estimates Committee, HMSO 1965, Appendix I, Cambridge University.

The following ratios were established for Oxford University:

Table A''

Student/teacher ratios at Oxford University in 1964

	Humanities (1)	Social sciences (2)	(1) + (2) (3)	Science (4)	Medical sciences (5)	All (excluding medical sciences) (6)	All subjects (7)
Unweighted ratios	10.2	13.2	10.9	8.7	4.5	10.1	9.6
Weighted ratios	11.7	16.0	12.7	13.5	5.9	13.0	12.3

The general trend is summarised in Table A''' of ratios calculated by the UGC. This table covers all universities except Oxford and Cambridge (which, the UGC claim, do not show any basic differences from other universities in this connection):

Table A'''

Number of students/total teaching staff at all levels

	1938/39	1958/59	1963/64
Humanities and social sciences	11	8	8.4
Pure science	5.7	7	7
Applied sciences		9	8
Medical sciences	28.6	6	5

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(1) University Grants Committee.

The UGC expressed some concern about the trend in full-time teacher/student ratios in the following fields of study: the humanities, social sciences, pure and applied sciences. This ratio had improved slightly between 1938 and 1954 (1/7.9 and 1/7.6) but deteriorated between 1954 and 1961 (1/8.4). If the specific UGC weighting is applied, the staffing ratios are even more unfavourable: 1/10.5 in 1938-39, 1/9.3 in 1954-55 and 1/10.9 in 1961-62.

Furthermore, the creation of posts for senior level teachers was apparently curbed by a decision in 1947 to limit the sum total of salaries paid to these teachers in each university to a maximum of 35 per cent of the salaries paid to the rest of the teaching staff. One of the results of this ruling was to restrict the promotion prospects of university teachers and to weaken the ratio between professors and other teaching staff (1/4.12 in 1938-39 and 1/7.40 in 1961-62).

However, such considerations should not obscure the fact that the university student/teaching staff ratio is particularly good in the United Kingdom in comparison with most other industrialised countries (1).

2. Annual average numerical growth rates of university teachers and students

The rates summarised in the following table show that the overall growth rates for teachers and students were similar but that at junior and senior levels those for teachers increased more slowly than those for students.

Table B

Numerical growth rates for teachers and full-time students broken down by field of study and level of teaching staff (1953-1964)

(in percentages)

Field of study	Teachers			Total	Students
	SL	ML	JL		
Pure science	6.2	7.5	7.4	7.3	7.3
Technology	6.5	6.4	6.0	6.3	6.6
Medical sciences	3.8	4.0	2.4	3.6	0.3
Agriculture	2.3	4.4	0.0	2.3	0.9
Humanities	(a) 1.4	(a) 4.3	(a)-2.3	(a) 2.5	
	(b) 4.4	(b) 5.9	(b) 9.7	(b) 6.2	2.2
	0.6	2.9	4.3	2.8	
Social sciences (1959-64)	13.0	16.8	24.0	17.4	10.9
Total	(c) 4.0	(c) 6.3	(c) 2.6	(c) 5.1	5.1

Notes:
(a) 1953-1958.
(b) 1958-1964.
(c) 1950-1964.

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(1) In fact, the Robbins Report gave the following table for 1960:

United Kingdom	:	8
France	:	30
Germany	:	35
Netherlands	:	14
Sweden	:	12
United States	:	13
USSR	:	12

3. Structural changes in the teaching body

Table C confirms, under another form, the above results.

Table C

Structural changes in the teaching body
(1953, 1964, 1966)

(as percentage of total teachers)

Level Field of study		SL	ML	JL
Pure science	1953	12.6	64.6	22.8
	1964	11.2	65.7	23.1
	1966(a)	10.0	72.4	17.6
Technology	1953	10.0	74.0	16.0
	1964	10.1	74.2	15.7
	1966	8.5	82.8	8.7
Medical sciences	1953	14.3	63.1	22.6
	1964	14.5	65.6	19.9
	1966	14.3	69.2	16.5
Agriculture	1953	7.4	41.9	50.7
	1964	7.5	52.8	39.7
	1966	9.2	70.8	20.0
Humanities	1953	17.5	61.5	21.0
	1964	14.8	66.3	18.9
	1966(b)	13.1	65.4	21.5
Social sciences	1959	17.6	65.3	17.1
	1964	14.5	63.4	22.1
	1966	11.8	67.5	20.7
Total	1950	14.5	56.0	29.5
	1964	12.7	66.1	21.2
	1966	11.2	71.9	16.9

Notes: (a) The classification was changed as from 1965, so these figures cover the physical sciences. The figures for the biological sciences are as follows: SL: 11.3 per cent; ML: 69.4 per cent; JL: 19.3 per cent.

(b) Education has not been included in the humanities since 1965; the breakdown for education in 1966 was as follows: SL: 8.1 per cent; ML: 87.5 per cent; JL: 4.4 per cent.

The overall growth rate in numbers of middle level staff has been much faster than that for other teachers (except in social sciences between 1959 and 1964) and they therefore account for a larger proportion of the teaching body. It will later be seen that the same pattern occurs in Northern Ireland.

B. Non-university higher education

We will not discuss here colleges of further education. According to the Robbins Report in 1961-62 students receiving higher education (at advanced level) represented, when estimated on a full-time basis, one quarter of students following courses leading to a recognised diploma, and of course an even smaller proportion of the total number of students at colleges of further education. Moreover, until then it had been impossible to estimate theoretically the number of hours actually devoted to teaching advanced students, as the teaching body of these colleges were dealing with pupils of different levels (1).

Table D summarises the recorded trends in teacher training colleges. In 1967-68 the number of full-time teachers had increased nearly fourfold since 1954-55. Their average annual rate of increase (11.1 per cent) was greater than the student rate over the same period (10.9 per cent). The student/teacher ratio can therefore be seen to have improved. But the separate inquiries for England and Wales and for Scotland show a great difference in the trends in numbers and student/teacher ratios. The student/teacher ratio is still greater in Scotland than in England and Wales, though this ratio was clearly improving towards the end of the 'fifties. In England and Wales the ratio has never exceeded the extremes of 1/10.2 and 1/11.9. In these countries a marked decline has been noted in the relative value of women teachers. The number of part-time teachers is small - 15 per cent of all teaching staff in Scotland in 1961-62 and 14 and 12 per cent in England and Wales (in 1961-62 and 1962-63) (2).

II. Composition of the teaching body in university-type higher education institutions

Answers to the "complementary questions" indicated teacher shortages in certain fields of study - usually where current demand is so high that annual outflows of graduates are inadequate - although no general shortage seems to exist. There are no precise data on the quantitative difference between the number of posts offered and those filled.

A. Proportional distribution of staff at different levels

The foregoing paragraphs and supporting tables have shown that the proportion of junior level teachers, far from increasing, has decreased in relation to university teaching staffs as a whole. This trend emerges clearly from the relevant data for the United Kingdom (including Northern Ireland, as will be seen later), and runs counter to what has happened in almost all the other countries currently under review. Nevertheless, concern is expressed in the Robbins Report about possibilities of promotion for university staff. Before World War II, 20 per cent of university teachers outside Oxford and Cambridge were professors, whereas the figure was only 12 per cent when the report was drawn up (page 178). A further recommendation made in the report was that more widespread use should be made of part-time staff since there were a considerable number of persons available who could make a valuable contribution. Excluding staff teaching medical subjects, only about 3 per cent of the university teaching body were in fact working part-time in 1963.

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(1) Data on colleges of further education appear in Study on Teachers: Germany, Belgique, United Kingdom, OECD, Paris, 1969. Also, Part III "Teachers in Further Education", annex III, Robbins Report.

(2) Robbins Report, Appendix III, Part II.

1. Women teachers and the importance of part-time teachers

The numerical data in Table D relate to these two categories of teachers in non-university higher education. There has been no comparable breakdown for university education. However, the answers to the complementary questions showed that about 10.6 per cent of this part of the teaching body were women in 1965-66 and 1966-67. Since the available statistics differentiate between men and women teachers only from 1965 onwards it has not been possible to distinguish any trend.

As regards the new universities, the report by Professor Perkin (1) points out that the demand for additional staff has not been met by employing a particularly large proportion of women teachers. In fact, women hold four professorships and 146 middle and junior level posts in the ten new universities, i.e. they account for 2 per cent of the senior level staff and 10 per cent of the staff as a whole. According to the study in question it seems that the comparatively small number of women staff in the United Kingdom cannot be explained by any decision on principle or even discrimination in practice by the authorities handling recruitment, but is primarily due to the fact that there are few women applicants and most of them are without a really adequate university education.

2. Additional teaching hours and teaching schedules

The answers to the "complementary questions" stressed the difficulty in estimating the part played by additional teaching hours. In fact, the university system in the United Kingdom allows staff a great deal of flexibility between teaching, research and other academic activity in their special field. It is therefore impossible to say whether teaching schedules are too heavy in the absolute. They would be regarded as too heavy if they encroached on other activities unduly, but that would be a matter for judgment, not statistical appraisal.

Mention must also be made of the tutorial system operating in many English-speaking countries. In such a system the official teaching schedule is only partly indicative of the teacher's employment of his time.

Table E gives some indication of how university staffs in the various departments allocate their time between teaching and other academic activities.

Another way of evaluating the teacher supply and demand situation is to take the average number of actual teaching hours done each week by members of the teaching body at each level. A table in annex II summarises average teaching hours per week by field of study and level of staff. The table formed part of the Academic Staff Survey and was published by Oxford University in its "Report of Commission of Inquiry". It shows that teachers in higher education average 8.8 teaching hours per week. Most professors teach from 1 to 4 hours per week, readers between 5 and 8 hours and tutorial fellows between 5 and 12 hours. However, 11 per cent of the teaching body have a weekly teaching schedule of more than 17 hours.

3. Part played by foreign teachers

In the Perkin report it is pointed out that the new universities also use foreign staff to fill some of their posts, and such teachers account for a by no means insignificant proportion of the university teaching staff in the United Kingdom. The new universities have maintained this tradition. Thus, in 1968 Essex University had 19 foreign teachers out of a total of 147 and Lancaster 18 out of 203.

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(1) Innovation in Higher Education - New Universities in the United Kingdom by H.J. Perkin - OECD, 1969, Paris.

Table D

TRENDS IN NUMBERS OF STUDENTS (a) AND FULL-TIME TEACHERS IN TEACHER TRAINING COLLEGES

		1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	1965/66	1966/67	1967/68	1968/69
ENGLAND AND WALES																
Teachers (b)	total	2,300	2,317	2,404	2,491	2,591	2,912	3,276	3,563	4,321	4,941	5,764	6,703	7,888	9,114	
	women teachers	1,620	1,629	1,647	1,683	1,696	1,789	1,899	1,968	-	2,337	2,521	2,704	2,945	3,242	
	% of women teachers	70	70	69	68	65	61	58	55	-	47	44	40	37	36	
Students (c)		24,500	24,800	27,000	29,000	30,800	32,200	35,100	36,500	48,400	54,793	62,752	73,775	85,474	96,993	
	student/teacher ratio	10.7	10.7	11.2	11.6	11.9	11.4	10.7	10.2	11.2	11.1	10.9	11.0	10.8	10.6	
SCOTLAND																
Teachers	total	239	-	-	-	266	278	314	343	383	-	-	623	778	868	949
	women teachers	-	-	-	-	143	146	160	-	-	-	-	276	324	356	362
	% of women teachers	-	-	-	-	54	53	51	50	-	-	-	44	42	41	38
Students		3,576	-	-	-	4,505	4,964	5,369	5,651	6,296	-	-	8,858	9,658	10,840	11,806
	student/teacher ratio	15.0	-	-	-	16.9	17.8	17.1	16.5	16.4	-	-	14.2	12.4	12.5	12.4
GREAT BRITAIN																
Teachers	total	2,539	-	-	-	2,857	3,190	3,590	3,906	4,704	-	-	7,326	8,666	9,982	-
	index	100	-	-	-	113	126	141	154	185	-	-	288	341	393	-
Students	total	28,076	-	-	-	35,305	38,164	40,469	42,151	54,696	-	-	82,633	95,132	107,833	-
	index	100	-	-	-	126	136	144	150	195	-	-	294	339	384	
	student/teacher ratio	11.1	-	-	-	12.4	12.0	11.3	10.8	11.6	-	-	11.3	11.0	10.8	

Sources : England and Wales : Teachers : 1954/55 : Education in 1955 ... Report of the Minister of Education; 1955/56 to 1962/63; Robbins Report, appendix III, part II; also Statistics of Education (Ministry of Education and Science). Students : 1954/55 : Development of Higher Education 1950 - 1967 - Statistical Survey (United Kingdom), OECD, Paris, 1970 ; also Robbins Report till 1962/63 (op. cit.) and Statistics of Education (op. cit.).

Scotland : 1954/55 to 1962/63 : Robbins Report (op. cit.); 1965/66 : Education in Scotland in 1965 - Scottish Ministry of Education ; 1966/67 to 1968/69 : Scottish Educational Statistics for the number of Scottish students and teachers and Education in Scotland in 1960's for the number of foreign students.

Notes :
(a) including, except in 1954/55, for England and Wales foreign and Commonwealth students intending to teach outside the United Kingdom.
(b) on 31st March of the school year until 1962/63, then in October after this.
(c) excluding students in University departments of Education, Art Colleges and "other establishments".

Table E

Teaching loads by department estimated on the basis of time allocated

(in percentages)

Field of study	Undergraduate teaching	1966 - 1967		Other activities
		Post-graduate teaching	Research	
Humanities	50.9	10.5	27.5	11.1
Social sciences	44.7	15.9	27.1	12.3
Education	9.7	55.3	21.7	13.3
Physical sciences	36.2	20.8	35.2	7.8
Biological sciences	38.8	17.5	35.3	8.4
Technology	43.9	19.7	28.1	8.3
Other applied sciences	45.5	15.8	29.4	9.3
Medicine (a)	39.7	13.9	38.7	7.7
Clinical medicine	21.2	19.6	39.8	19.4
Clinical odontology	51.7	9.1	26.0	13.2
Veterinary	48.8	7.4	36.0	7.8
Clinical veterinary sciences	49.0	12.5	32.1	6.4
Agriculture (b)	34.3	18.4	37.5	9.8

Source: Answer to "complementary questions".

Notes: (a) Pre-clinical medicine, including odontology.
(b) Including forestry.

4. Other teachers

The answers to the "complementary questions" also provided certain information on teachers not covered by the numerical data in table I in annex. The teachers in question are those employed on a full-time basis and whose salaries are either paid partly by the universities or wholly by other institutions.

The data on these teachers has been available only since 1965-66 and is summarised below:

Teachers:	1965-66	1966-67
(1) partly financed by the universities	353	434
(2) financed wholly by other institutions	3,076	3,428

B. Supplementary data on trends in numbers and composition of the teaching body in universities, with particular reference to the new universities

It seems clear that the UGC (1) hoped to see the teaching body revitalised as the new universities (Keele, Sussex, York, East Anglia, Essex, Lancaster, Kent, Warwick, Stirling and Ulster) were set up and opened to students between 1960 and 1968 (2). One of the aims was to achieve greater mobility between the universities. There were strong pressures for promotion within the universities themselves, however, as retiring senior level teachers were replaced by middle and junior level staff. It is therefore primarily at the senior level (Chairs) that some mobility has in fact been achieved.

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(1) University Grants Committee.

(2) Innovation in Higher Education - New Universities in the United Kingdom by H.J. Perkin, OECD, 1969.

In 1966-67 the full-time teaching staff at the universities of East Anglia, Essex, Keele, Kent, Lancaster, Sussex, Warwick and York comprised:

Professors (SL)	172
Readers, senior lecturers and lecturers (ML)	869
Assistant lecturers and others (JL)	404
Total	1,445

The Perkin report estimates that by 1972 all the new universities will employ 10 per cent of the entire university teaching body, or perhaps even less. The additional demand for qualified professors which has been created by the new universities has been (and will be) quite easily satisfied owing to the artificial restriction on promotions. This demand was estimated at 204 for 1965-66, whereas the estimated total of other university professors in the same year was 2,404. Although it is difficult to determine the extent to which the qualifications of the new professors match those of their colleagues in older universities, it would appear that their academic training and degrees are comparable in value.

The enquiry on which the Perkin report was based established that the new universities had no great difficulty in attracting very competent staff from the older universities. The possibility of trying out new ideas or methods, studying new subjects or revitalising methods of approaching traditional subjects were apparently powerful elements of attraction. These opportunities to be inventive in a liberal climate, to work as a real pioneer and to carry out all sorts of experiments seem to have largely offset the apprehension of teachers concerning the scheduled increase in course loads and administrative work. Full-time student/ full-time staff ratio was 7.4 in 1966-67 in the new universities.

III. Conclusions

As shown in table I in annex and table A in the text, the overall numerical growth rate for teachers was slightly higher than that of students between 1953 and 1964.

Rather than an overall imbalance in the quantitative situation in higher education, the responsible authorities fear the appearance or development of specific local imbalances.

The very substantial growth in numbers of middle level staff should also be noted.

In teacher training colleges a fast rate of growth of the teaching staff has been recorded in spite of a very strong demand caused by their expansion since 1960.

ANNEX I

ANNEXE I

TEACHING STAFF (FULL TIME) BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
PERSONNEL ENSEIGNANT (A PLEIN TEMPS) PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE

Country / Pays : GREAT BRITAIN / GRANDE-BRETAGNE
Table / Tableau : I

SL = Senior Level (a) — Statut Supérieur = SS (a)
ML = Middle Level (a) — Statut Moyen = SM (a)
JL = Junior Level (a) — Statut Inférieur = SI (a)

Field of specialisation/Branches — Year/Année	PURE SCIENCE SCIENCES PURES				ARCHITECTURE				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES (b)				EDUCATION				FINE ARTS BEAUX ARTS				SOCIAL SCIENCES SCIENCES SOCIALES				OTHER AUTRES				Total					
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T		
																																													"Lecturers","Assistant lecturers","Demonstrators"at Oxford and Cambridge not included [see notes (c) and (d)]	
1950/51																																									1 247	4 820	2 536	8 603	"Lecturers","Assistant lecturers","Demonstrators" de Oxford et Cambridge ne sont pas compris [voir notes (c) et (d)]	
1951/52																																									1 290	5 121	2 541	8 952		
1952/53																																									1 297	5 594	2 207	9 098	Cambridge	Oxford
1953/54	281	1 435	507	2 223					116	861	188	1 165	285	1 257	449	1 991	52	293	355	700	600	2 114	721	3 435																	1 334	5 960	2 220	9 514	597	379
1954/55	290	1 544	491	2 325					125	875	159	1 159	291	1 200	513	2 004	51	301	378	730	620	2 304	668	3 592																	1 377	6 224	2 209	9 810	612	394
1955/56	308	1 599	535	2 442					140	944	176	1 260	292	1 244	508	2 044	52	323	376	751	629	2 403	673	3 705																	1 427	6 513	2 268	10 202	650	381
1956/57	324	1 720	537	2 581					152	1 009	184	1 345	297	1 307	504	2 108	55	341	350	746	631	2 414	660	3 705																	1 459	6 791	2 235	10 485	676	381
1957/58	320	1 790	580	2 690					159	1 083	214	1 456	300	1 330	505	2 135	54	364	347	765	641	2 520	639	3 800																	1 474	7 087	2 285	10 846	690	382
1958/59	326	1 864	590	2 780					166	1 142	229	1 537	311	1 346	485	2 142	56	369	349	774	646	2 603	643	3 892																	1 505	7 324	2 296	11 125	719	390
1959/60	341	2 015	680	3 036					174	1 262	303	1 739	322	1 428	500	2 250	57	391	305	753	520	2 181	518	3 219									141	523	137	801					1 555	7 800	2 443	11 798	712	410
1960/61	365	2 119	717	3 201					177	1 323	313	1 813	342	1 510	530	2 382	58	398	353	809	523	2 162	541	3 226									162	636	188	986					1 627	8 148	2 642	12 417	742	421
1961/62	387	2 255	806	3 448					191	1 406	353	1 950	356	1 568	502	2 426	60	411	359	830	540	2 246	562	3 348									174	701	227	1 102					1 708	8 587	2 809	13 104	755	417
1962/63	419	2 532	957	3 908					198	1 449	348	1 995	374	1 655	550	2 579	60	431	357	848	558	2 400	588	3 546									189	775	292	1 256					1 798	9 242	3 092	14 132	756	412
1963/64	456	2 758	1 036	4 250					209	1 558	389	2 156	393	1 758	591	2 742	61	418	369	848	588	2 533	710	3 831									208	860	364	1 432					1 915	9 885	3 459	15 259 (f)	768	417
1964/65 (c) (d)	543	3 176	1 114	4 833					231	1 694	357	2 282	428	1 931	585	2 944	67	472	355	894	646	2 901	824	4 371									260	1 136	397	1 793					2 175	11 310	3 632	17 117	(c)	(d)
1965/66 (e)	Physical Sc./Sc. Physiques				Biological Sc./Sc. Biologiques				Engineering/Sc. de l'ingénieur																				Other Applied Sciences/Autres sciences appliquées								Others/Autres									
	436	3 252	860	4 548	142	910	264	1 316	218	2 125	225	2 568	446	2 261	506	3 213	64	494	172	730	593	2 760	920½	4 303½	68	742½	38	848½	101	1 035½	185	1 321½	354	2 005	605½	2 964½	2	37	13	52	2 404	15 622	3 839	21 865	All these figures include Cambridge and Oxford.	
1966/67	487	3 523	854	4 864	165	1 015	283	1 463	235	2 281	239	2 755	470	2 283	545	3 298	69	531	150	750	601	3 010	989	4 600	75	813	41	929	125	1 170	169	1 462	408	2 321	711	3 440	4	33	11	48	2 639	16 980	3 990	23 609	Tous ces chiffres comprennent Cambridge et Oxford	

Source: "Returns from universities and university colleges"

Notes:
(a) SL = professors and others of equivalent status; ML = readers, senior lecturers, lecturers and others of equivalent status; JL = assistant lecturers and others.
(b) Humanities include Education, partly Law and - until 1958/59 - Social Sciences
(c) 431 lecturers, assistant lecturers and demonstrators at Oxford University are not included in the total.
(d) 827 lecturers, assistant lecturers and demonstrators at Cambridge University are not included in the total.
(e) From 1965/66, the basis on which the returns are compiled has been changed.
(f) Perkin's Report: 15.754 (Innovation in Higher Education: "New Universities in United Kingdom - OECD, 1969).

Source : Données fournies par les universités et les "colleges" universitaires.

Notes :
(a) SS = professeurs et autres enseignants de statut équivalent ; SM = "readers", "senior lecturers", "lecturers" et autres enseignants de niveau équivalent ; SI = "assistant lecturers" et autres enseignants de niveau équivalent.
(b) Les Lettres comprennent l'Education, une partie du Droit et,- jusqu'en 1958/59 - Les Sciences sociales.
(c) 431 "lecturers", "assistant lecturers" et "demonstrators" de l'Université d'Oxford ne sont pas compris dans le total général.
(d) 827 "lecturers", "assistant lecturers" et "demonstrators" de l'Université de Cambridge ne sont pas inclus dans le total général.
(e) A partir de 1965/66, les bases de calcul des désagrégations ont été modifiées.
(f) 15.754 : source : Rapport Perkin "Innovation dans l'enseignement supérieur : Les nouvelles universités au Royaume-Uni", OCDE, 1969.

Table I bis (Indexes)

Teaching staff (full-time) by status and field of specialisation in university institutions

Field of specialisation / Year	Pure science	Technology	Medical sciences	Agriculture	Humanities	Social sciences	SL	Total		T	Law	
								ML	JL		Cambridge	Oxford
1950/51							100	100	100	100		
1951/52							103	106	100	104		
1952/53							104	116	87	106		
1953/54	100	100	100	100	100		107	123	88	111	100	100
1954/55	105	99	101	104	105		110	129	87	114	103	104
1955/56	110	108	103	107	108		114	135	89	119	109	101
1956/57	116	115	106	107	108		117	141	88	122	113	101
1957/58	121	125	107	109	111		118	147	90	126	116	101
1958/59	125	132	108	111	113		121	152	94	130	120	103
1959/60	137	149	113	108	94(a)	100	125	162	96	137	119	110
1960/61	144	155	120	116	94	123	130	169	104	144	124	111
1961/62	155	167	122	119	97	138	137	178	111	152	126	110
1962/63	176	171	130	121	103	156	144	192	122	164	127	109
1963/64	191	185	138	121	112	179	154	205	136	177	129	110
1964/65	217	196	148	128	127	223	174	235	143	199		
	Physical sciences	Engineering									"Lecturers", "assistant lecturers", "demonstrators" at Oxford and Cambridge not included.	
1965/66 (b)	205	220	161	104	125	370	193	324	151	254		
1966/67	219	236	166	107	134	429	212	352	157	274		

Source: See table I.

Notes: (a) See note (b), table I.
(b) From 1965/66, the basis on which the returns are compiled has been changed.

Table II

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS (FULL-TIME)

Field of special. / Year	PURE SCIENCE	TECHNO-LOGY	MEDICAL SCIENCES	ABSOLUTE FIGURES		EDUCA-TION	SOCIAL SCIENCES	TOTAL	Field of special. / Year	PURE SCIEN-CE	INDEXES		AGRI-CUL-TURE	HUMA-NI-TIES (a)	SOCIAL SCIEN-CE	TOTAL
				AGRI-CULTURE	HUMA-NITIES (a)						TECH-NO-LOGY	MEDIC. SCI-ENCES				
1953/54	16,971	10,036	15,803	3,119	34,673			80,602	1953/54	100	100	100	100	100		100
1954/55	17,327	10,586	15,681	3,006	35,105			81,705	1954/55	102	105	99	96	101		101
1955/56	18,133	11,379	15,992	3,043	36,647			85,194	1955/56	107	113	101	98	106		106
1956/57	19,899	12,496	15,670	3,054	38,747			89,866	1956/57	117	125	99	98	112		111
1957/58	21,707	13,859	15,564	3,191	41,121			95,442	1957/58	128	138	98	102	119		118
1958/59	23,402	15,043	15,331	3,296	43,132			100,204	1958/59	138	150	97	106	124		124
1959/60	24,748	15,932	15,395	3,339	34,099		10,496	104,009	1959/60	146	159	97	107	98	100	129
1960/61	26,453	16,225	15,362	3,273	34,579		11,807	107,699	1960/61	156	162	97	105	100	112	134
1961/62	28,676	17,232	15,297	3,321	36,156		12,461	113,143	1961/62	164	172	97	106	104	119	140
1962/63	31,807	17,011	15,580	3,400	37,567		13,639	119,004	1962/63	187	170	99	109	108	130	148
1963/64	34,316	18,493	15,830	3,269	39,057		15,480	126,445	1963/64	202	184	100	105	113	147	157
1964/65	36,786	20,262	16,346	3,421	44,305		17,591	138,711	1964/65	217	202	103	110	127	168	172
1965/66(b)	45,327	30,415	18,537	3,639	32,822	5,750	32,117	168,607	1965/66 (b)	267	303	117	117	95	306	209
1966/67	48,559	33,073	19,689	3,785	35,410	6,488	37,199	184,203	1966/67	286	330	125	121	102	354	229

Source : Returns from universities and university colleges.

Notes : (a) Includes students in Education. Also includes students in the Social Sciences, at least up to 1958/59 inclusive.
(b) From 1965/66, the basis on which the returns are compiled has been changed.

Table III

Student enrolments in university institutions
(part-time and full-time)

Years	Part-time	Full-time and part-time
1950/51	16,698	102,012
1951/52	17,058	100,516
1952/53	15,855	97,329
1953/54	15,755	96,357
1954/55	16,146	97,851
1955/56	16,300	101,494
1956/57	16,208	106,074
1957/58	16,486	111,928
1958/59	15,879	116,083
1959/60	15,932	119,941
1960/61	17,831	125,530
1961/62	18,779	131,922
1962/63	16,424	135,428
1963/64	16,528	142,973
1964/65	18,077	156,788
1965/66 (a)	12,445	181,052
1966/67	16,521	200,724

Source: Answers to "complementary questions".

Note: (a) From 1965/66, the basis on which the returns are compiled has been changed.

ANNEX II

TIME SPENT ON TEACHING (EXCLUDING POSTGRADUATE SUPERVISION) BY POST AND SUBJECT GROUP, MICHAELMAS TERM 1964

SUBJECT GROUP	TOTAL TEACHING (HOURS PER WEEK)	PRO-FESSOR	"READER"	"UNIVERSITY LECTURER" WITH "TUTORIAL FELLOWSHIP"	"UNIVERSITY LECTURER" WITHOUT "TUTORIAL FELLOWSHIP"	"SPECIAL LECTURERS" ETC.	OTHER UNIVERSITY STAFF WITH TUTORIAL FELLOWSHIP	OTHER SENIOR RESEARCH STAFF	OTHER UNIVERSITY AND OUTSIDE GRANTS STAFF	COLLEGE POST ONLY: TEACHING	COLLEGE POST ONLY: RESEARCH	ALL POST
Arts(a)	0	-	-	-	-	-	-	-	19	-	27	4
	1–4	62	25	-	18	1	-	33	12	16	27	14
	5–8	20	50	-	30	8	-	67	31	13	34	16
	9–12	13	19	33	27	25	13	-	27	25	11	22
	13–16	2	-	52	15	41	50	-	4	28	-	27
	17–20	2	6	14	9	20	38	-	8	13	-	14
	21 and over	-	-	-	-	5	-	-	-	6	-	3
	All	100	100	100	100	100	100	100	100	100	100	100
Social Sciences	0	-	-	.	-	2	-	-	20	-	38	9
	1–4	78	9	.	22	-	25	75	20	21	21	18
	5–8	22	45	.	22	13	-	25	50	21	42	26
	9–12	-	36	.	39	31	50	-	10	16	-	21
	13–16	-	9	.	11	24	25	-	-	32	-	14
	17–20	-	-	.	6	28	-	-	-	11	-	11
	21 and over	-	-	.	-	2	-	-	-	-	-	1
	All	100	100	.	100	100	100	100	100	100	100	100
Science	0	9	-	-	4	-	-	36	39	-	17	16
	1–4	65	14	-	15	-	4	24	24	7	48	19
	5–8	13	34	6	31	-	16	18	22	53	30	21
	9–12	9	17	21	28	23	36	9	6	13	4	16
	13–16	-	28	56	13	59	44	12	6	29	-	21
	17–20	-	3	17	6	14	-	-	3	7	-	6
	21 and over	4	3	-	3	5	-	-	-	-	-	1
	All	100	100	100	100	100	100	100	100	100	100	100
Medical Sciences	0	-	-	-	19	.	.	80	45	.	.	34
	1–4	60	64	-	45	.	.	10	23	.	.	32
	5–8	30	18	-	13	.	.	-	13	.	.	12
	9–12	10	9	20	10	.	.	5	8	.	.	9
	13–16	-	-	40	10	.	.	5	8	.	.	7
	17–20	-	9	40	3	.	.	-	3	.	.	5
	21 and over	-	-	-	-			-	3			1
	All	100	100	100	100	.	.	100	100	.	.	100
All subjects	0	2	-	-	6	-	-	47	36	-	27	12
	1–4	64	24	-	23	1	5	23	22	15	31	18
	5–8	20	37	4	26	8	11	15	24	24	35	19
	9–12	10	19	24	26	26	12	7	9	20	7	18
	13–16	1	13	54	13	39	43	8	5	27	-	21
	17–20	1	4	18	6	21	8	-	3	11	-	9
	21 and over	1	1	-	1	4	-	-	-	3	-	2
	All	100	100	100	100	100	100	100	100	100	100	100

Source : Academic Staff Survey.
Answers to "complementary questions".

Note : (a) Include **various** branches like Humanities, Architecture, Fine Arts, etc.

Northern Ireland

The criteria governing the selection and promotion of members of the teaching body in Northern Ireland closely resemble those used in Great Britain.

I. Trends in numbers of teachers and students in university education

1. Student/teacher ratios and numbers

The numbers of teachers and students enrolled at Queen's University (Belfast) are shown in tables I and II in annex. The following student/teacher ratios were calculated on the basis of these two tables.

The quantitative situation deteriorated slightly between 1951 and 1964 if the overall full-time student/teacher ratio alone is taken into account. Great differences appear when the overall ratio is broken down by field of study. The ratio has in fact shown a most marked increase in pure science and education, and in the humanities, fine arts and law taken together. On the other hand, the largest decreases have been in technology, medical sciences and, to a lesser degree, social science.

Similarly, variations will be observed in many of the student/teacher ratios based on the levels of teaching staff. Thus, the full-time student/senior level staff ratio decreased in technology and medical sciences, whereas it increased in other fields of study. The full-time student/junior level staff ratio increased in pure science and agriculture and in the humanities, law and fine arts taken together. The picture emerging from table B below presents some very minor differences.

2. Numerical growth rates for university teachers and students

These rates are summarised in table C. It will be noted that the growth rates for middle level staff are particularly high, even when compared with the rates for junior level teachers other than in social studies. In this connection, Northern Ireland shows a quite marked divergence from the general trend towards a far greater relative increase in junior level teachers.

3. Structural changes

Table D confirms precisely the substantial increase in the proportion of middle level staff in the teaching body as a whole.

II. Composition of the teaching body

Table E below, based on data provided by UNESCO gives a breakdown of the teaching body by full and part-time staff and by sex.

Table A

Full-time student/teacher ratios by field of study and
level of teaching staff in university level education
(1951, 1964 and 1966) (a)

Field of study		S/SL	S/ML	S/JL	S/SL+ML	S/Total
Pure science	1951	41.8	17.5	11.5	12.4	6.0
	1964	71.5	11.2	27.3	9.7	7.1
	1966	121.5	18.1	43.1	15.7	11.5
Architecture	1951	-	-	-	-	-
	1964	-	-	-	-	-
	1966	149.0	18.6	-	16.6	16.6
Technology	1951	338.0	84.5	67.6	67.6	33.8
	1964	109.1	17.4	47.8	15.0	11.4
	1966	114.4	16.3	47.1	14.3	11.0
Medical sciences	1951	61.7	27.2	48.5	18.9	13.6
	1964	41.9	9.4	33.5	7.7	6.3
	1966	32.2	10.5	14.1	7.9	5.1
Agriculture	1951	12.2	5.5	2.8	3.8	1.6
	1964	19.6	4.1	5.8	3.4	2.1
	1966	15.6	2.9	6.0	2.4	1.7
Humanities + fine arts + law	1951	64.3	25.3	50.5	18.1	13.3
	1964	98.3	26.8	64.1	21.1	15.8
	1966	56.2	16.5	31.2	12.8	9.1
Education	1951	38.0	19.0	38.0	12.7	9.5
	1964	133.0	22.2	-	19.0	19.0
	1966	143.0	15.9	-	14.3	14.3
Social sciences	1951	47.0	15.7	94.0	11.8	10.4
	1964	76.0	17.5	25.3	14.3	9.1
	1966	125.1	21.7	75.1	18.5	14.8
Total	1951	56.3	22.1	26.2	15.9	9.9
	1964	69.3	14.2	36.1	11.8	8.9
	1966	74.4	15.2	35.1	12.6	9.3

Note: (a) It should be noted that only the ratios for 1951 and 1964 are comparable, owing to the discontinuity of the statistical data after 1965.

Table B

Full and part-time student/teacher ratios by field of study
and level of teaching staff in university level education
(1951, 1964 and 1966)

Field of study		S/SL	S/ML	S/JL	S/SL+ML	S/Total
Pure science	1951	44.8	18.8	12.3	13.3	6.4
	1964	76.7	12.0	29.3	10.4	7.7
	1966	131.5	19.6	46.7	17.0	12.5
Architecture	1951	-	-	-	-	-
	1964	-	-	-	-	-
	1966	163.0	20.4	-	18.1	18.1
Technology	1951	501.0	125.3	100.2	100.2	50.1
	1964	120.3	19.1	52.6	16.5	12.6
	1966	132.3	18.9	54.5	16.5	12.7
Medical sciences	1951	64.6	28.3	50.6	19.7	14.2
	1964	44.1	9.9	35.3	8.1	6.6
	1966	39.2	12.8	17.2	9.7	6.2
Agriculture	1951	13.0	5.9	3.0	4.1	1.7
	1964	23.8	5.0	7.0	4.1	2.6
	1966	20.0	3.7	7.7	3.1	2.2
Humanities + fine arts + law	1951	69.0	27.1	54.2	19.5	14.3
	1964	106.5	29.1	69.5	22.8	17.2
	1966	66.7	19.6	37.1	15.2	10.8
Education	1951	60.0	30.0	60.0	20.0	15.0
	1964	218.0	36.3	-	31.1	31.4
	1966	268.0	29.8	-	26.8	26.8
Social sciences	1951	94.5	31.5	189.0	23.6	21.0
	1964	143.0	33.0	47.7	26.8	17.2
	1966	153.9	26.6	92.3	22.7	18.2
Total	1951	66.0	25.9	30.7	18.6	11.6
	1964	79.2	16.3	41.2	13.5	10.2
	1966	88.2	18.1	41.6	15.0	11.0

Table C

Breakdown of numerical growth rates for teachers and students by field of study and level of teaching staff in university level education over the period 1951-1964

(in percentages)

Field of study	Teachers				Students	
	SL	ML	JL	Total	Full-time	Total
Pure science	3.8	12.0	1.3	6.7	8.2	8.2
Technology	16.2	20.0	9.4	15.8	6.5	4.1
Medical sciences	2.9	8.4	2.8	6.0	-0.1	-0.1
Agriculture	0.0	6.2	-2.0	1.5	3.7	4.8
Humanities + fine arts + law	2.4	5.3	3.9	4.4	5.8	5.9
Education	0.0	8.8	-	4.4	10.1	10.4
Social sciences	3.2	6.1	18.4	8.2	7.1	6.5
Average ratios	3.4	8.7	2.5	6.0	5.1	4.9

Table D

Structural changes in the teaching body in university level education by field of study (1951, 1964 and 1966)

Field of study / Level		SL	ML	JL
Pure science	1951	14.3	33.9	51.8
	1964	10.0	63.8	26.2
	1966	9.5	63.8	26.7
Technology	1951	10.0	40.0	50.0
	1964	10.4	65.7	23.9
	1966	9.6	67.1	23.3
Medical sciences	1951	22.0	50.0	28.0
	1964	14.9	66.4	18.7
	1966	15.8	48.2	36.0
Agriculture	1951	13.2	28.9	57.9
	1964	10.9	52.2	36.9
	1966	11.1	60.0	28.9
Humanities + fine arts + law	1951	20.8	52.8	26.4
	1964	16.1	59.2	24.7
	1966	16.1	54.9	29.0
Education	1951	25.0	50.0	25.0
	1964	14.3	85.7	-
	1966	10.0	90.0	-
Social sciences	1951	22.2	66.7	11.1
	1964	12.0	52.0	36.0
	1966	11.9	68.4	19.7
Total	1951	17.6	44.7	37.7
	1964	12.8	62.5	24.7
	1966	12.5	61.0	26.5

Table E

Year	No. of institutions	Total teaching staff	Part-time teaching staff		Women teachers		Students
				%		%	
1961	2	503	94	19	56	11	4,296
1960	2	500	82	16	50	10	3,988
1959	2	441	73	17	45	10	3,621
1958	2	403	71	18	32	8	3,411
1957	2	379	46	12	22	6	3,040

Source: World Survey of Education, Vol.IV, p.1202.

The above table shows a rising trend in the proportion of women teachers between 1957 and 1961. However, no breakdown by teaching level is available.

Similarly, although no trends relating to teaching levels can be determined from the data available, the proportion of part-time teachers has risen from 12 to almost 19 per cent.

In non-university type education, teacher training colleges (except for domestic economy and fine arts) had a total staff of 143, of whom 66 (46 per cent) were women teachers and 12 (8 per cent) were part-time teachers. These taught 1,700 students. (Student/full-time teacher ratio : 13) (1).

III. Conclusions

The quantitative trends in university teaching staff and students in Northern Ireland over the period 1951-1964 are quite well balanced, although this harmonious growth actually conceals disparities in the quantitative trends in particular fields of study. In short, the student/teacher ratio decreased in technology, medical sciences and social sciences, whereas it increased in all other fields of study (excluding architecture).

It is also worthy of note that the numbers of middle level teachers generally increased most rapidly, which is a rather exceptional development.

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(1) Source: See table E.

ANNEX I

ANNEXE I

QUEEN'S UNIVERSITY - TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION
PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DE LA "QUEEN'S UNIVERSITY"

COUNTRY / PAYS : NORTHERN IRELAND / IRLANDE DU NORD
TABLE / TABLEAU : I

SL = Senior Level (a)
ML = Middle Level (a)
JL = Junior Level (a)

Statut Supérieur = SS (a)
Statut Moyen = SM (a)
Statut Inférieur = SI (a)

Field of specialisation / Branches — Year / Année	PURE SCIENCE SCIENCES PURES				ARCHITECTURE				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				EDUCATION				HUMANITIES A[illegible]S BEAUX ARTS				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				OTHER AUTRES				TOTAL			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
1951/52	8	19	29	56					1	4	5	10	11	25	14	50	5	11	22	38	1	2	1	4	9	25	13	47	2	3	1	6	2	6	1	9	1	7		8	40	102	86	228
1952/53	8	21	33	62					1	4	5	10	11	37	12	60	5	12	21	38	1	2	1	4	9	27	11	47	2	5	1	8	2	7	1	10	1	7		8	39	117	79	235
1953/54	8	26	33	67					1	6	3	10	11	44	13	68	5	11	21	37	1	2	1	4	9	24	15	48	2	4	1	7	2	7	3	12	1	6		7	39	126	89	254
1954/55	9	32	34	75					1	7	4	12	12	47	14	73	5	22	11	38	1	2	1	4	9	30	14	53	2*	4	1	7	2	8	5	15	1	6		7	41	146	92	279
1955/56	9	33	32	74					4	11	3	18	12	48	22	82	5	22	10	37	1	3	-	4	10	33	14	57	2	4	1	7	2	8	4	14	1	6		7	46	145	101	292
1956/57	9	33	38	80					5	12	3	20	13	43	20	76	5	22	11	38	1	3	-	4	10	33	16	59	2	3	1	6	2	7	4	13	1	7		8	46	148	91	285
1957/58	9	33	36	78					5	14	2	21	13	62	13	88	5	22	11	38	1	3	-	4	10	36	13	59	2	4	1	7	2	7	5	14	1	7		8	48	165	85	298
1958/59	10	35	41	86					5	15	3	23	14	56	14	84	5	27	6	38	1	3	-	4	12	36	11	59	2	4	1	7	2	7	4	13	1	7		8	50	167	46	263
1959/60	10	36	35	81					5	22	8	35	14	68	3	85	5	26	10	41	1	3	-	4	12	37	18	67	2	6	1	9	2	10	5	17	1	7		8	51	189	72	312
1960/61	10	47	33	90					5	25	12	42	14	75	17	106	5	22	10	37	1	3	-	4	10	50	14	74	2	6	1	9	2	13	9	24	1	7		8	50	200	79	329
1961/62	12	57	33	102					5	29	14	48	15	71	18	104	5	22	15	42	1	3	-	4	9	42	10	60	2	6	1	9	1	13	10	24	1	7		8	53	226	89	368
1962/63	12	64	31	107					5	28	15	48	15	74	16	105	5	21	16	42	1	3	-	4	11	43	18	71	2	6	3	11	3	11	9	23	1	7		8	55	216	111	382
1963/64	13	70	29	112					5	31	12	48	15	71	17	103	5	22	17	44	1	4	4	6	11	43	21	75	3	4	2	9	3	12	9	24	1	7		8	55	279	103	437
1964/65	13	83	34	130	1			1	7	44	16	67	16	71	20	107	5	24	17	46	1	6	-	7	12	51	22	85	3	4	1	8	3	13	9	25	1	6		7	62	302	119	483
1965/66(c)	12	73	21	106	1	2		3	7	38	20	65	16	48	49	113	5	26	15	46	1	8	-	9	12	46	20	78(b)				(b)	9	36	14	59	1	5		6	64	282	139	485
1966/67(c)	11	74	31	116	1	8		9	7	49	17	73	18	55	41	114	5	27	13	45	1	9	-	10	15	51	27	93(b)				(b)	9	52	15	76	1	7		8	68	332	144	544

Source : Ministry of Education - Dundonald House, Belfast.
Notes : (a) Senior Level - professors plus others of equivalent status.
Middle Level - readers and others of equivalent status, senior lecturers and lecturers.
Junior Level - assistant lecturers plus others.
(b) Humanities and Fine Arts include Law.
(c) See Annex II.

Source : Ministère de l'Education - Dundonald House, Belfast.
Notes : (a) Statut Supérieur = professeurs et enseignants de statut équivalent.
Statut Moyen = "readers" et autres enseignants de statut équivalent, "senior lecturers" et "lecturers".
Statut Inférieur = "assistant lecturers" et autres enseignants de statut équivalent.
(b) Lettres et beaux-arts comprend le droit.
(c) Voir Annexe II.

Table I bis (Indexes)

Queen's University - teaching staff by status and field of specialisation

Field of special-isation / Year	Pure science	Techno-logy	Medical sciences	Agri-cul-ture	Humani-ties, fine arts, law	Educa-tion	Social sciences	Other	Total			
	T	T	T	T	T	T	T	T	SL	ML	JL	T
1951/52	100	100	100	100	100	100	100	100	100	100	100	100
1952/53	111	100	120	100	104	100	111	100	98	115	92	103
1953/54	120	100	136	97	104	100	133	88	98	124	103	111
1954/55	134	120	146	100	113	100	167	88	103	143	107	122
1955/56	132	180	164	97	121	100	156	88	115	142	117	128
1956/57	143	200	152	100	123	100	144	100	115	145	106	125
1957/58	139	210	176	100	125	100	156	100	120	162	99	131
1958/59	154	230	168	100	125	100	144	100	125	164	53	115
1959/60	145	350	170	108	143	100	189	100	128	185	84	137
1960/61	161	420	212	97	157	100	267	100	125	196	92	144
1961/62	182	480	208	111	130	100	267	100	133	222	103	161
1962/63	191	480	210	111	155	100	256	100	138	212	129	168
1963/64	200	480	206	116	158	150	267	100	138	274	120	192
1964/65	232	670	214	121	175	175	278	88	155	296	138	212
1965/66	189	650	226	121	147(a)	225	656	75	160	276	162	213
1966/67	207	730	228	119	175(a)	250	844	100	170	325	167	239

Source: See table I.

Note: (a) See table I.

Table II

QUEEN'S UNIVERSITY - ENROLMENTS OF FULL-TIME STUDENTS (UNDERGRADUATES AND POSTGRADUATES)

Field of special. / Year	PURE SCIENCE	ARCHI-TECTURE	TECHNOLOGY ONLY	PURE SCIENCE TECHNOLOGY	ABSOLUTE FIGURES MEDICAL SCIENCES	AGRI-CULTURE	HUMA-NITIES	EDUCA-TION	FINE ARTS	LAW	SOCIAL SCIENCES	TOTAL	Field of special. / Year	PURE SCIENCE	TECH-NOLOGY	INDEXES MEDICAL SCIENCES	AGRI-CULTURE	HUMANITIES FINE ARTS LAW	EDUCA-TION	SOCIAL SCIENCES	TOTAL
1951/52	334		338	672	679	61	634	38		73	94	2,251	1951/52	100	100	100	100	100	100	100	100
1952/53	344		334	678	668	51	607	32		79	96	2,211	1952/53	101	99	98	84	96	84	102	98
1953/54	348		312	660	640	50	630	38		71	93	2,182	1953/54	103	92	94	82	99	100	99	97
1954/55	344		313	657	595	50	604	44		74	95	2,119	1954/55	104	93	88	82	96	116	101	94
1955/56	383		335	718	558	45	619	46		82	103	2,171	1955/56	115	99	82	74	99	121	110	96
1956/57	404		370	774	543	45	648	35		79	121	2,245	1956/57	121	109	80	74	103	92	129	100
1957/58	455		408	863	556	53	682	35		79	141	2,409	1957/58	136	121	82	87	108	92	150	107
1958/59	584		458	1,042	538	61	769	31		87	163	2,691	1958/59	175	136	79	100	121	82	173	120
1959/60	647		544	1,191	592	67	844	36		91	180	3,001	1959/60	194	161	87	110	132	95	191	133
1960/61	743		601	1,344	616	79	941	56		102	181	3,319	1960/61	222	178	91	130	148	147	193	147
1961/62	846		647	1,493	627	85	1,159	63		124	190	3,741	1961/62	253	191	92	139	181	166	202	166
1962/63	886		700	1,586	639	86	1,130	66		125	189	3,821	1962/63	265	207	94	141	178	174	201	170
1963/64	982		734	1,716	649	95	1,213	114		134	196	4,117	1963/64	294	217	96	156	191	300	209	183
1964/65	929		764	1,693	670	98	1,296	133		178	228	4,296	1964/65	278	266	99	161	208	350	243	190
1965/66 (a)	1,303	102	747	2,152	590	77	621	122	51	186	930	4,729	1965/66 (a)	390	221	87	126	121	321	989	20
1966/67 (a)	1,337	149	801	2,287	579	78	568	143	43	232	1,126	5,056	1966/67 (a)	400	237	76	128	119	376	1,198	225

Source : Ministry of Education - Dundonald House, Belfast.

Note : (a) The detailed figures for these years are based on new subject groupings introduced by the University Grants Committee; prior to 1965/66, the figures are based on faculty distribution. (See annex II.)

Table III

QUEEN'S UNIVERSITY - PART-TIME STUDENTS ARRANGED UNDER FACULTIES
(UNDERGRADUATES AND POSTGRADUATES)

Field of special. / Year	PURE SCIENCE	ARCHI-TECTURE	TECHNO-LOGY	MEDICAL SCIENCES	ABSOLUTE FIGURES			EDUCATION	FINE ARTS	LAW	SOCIAL SCIENCES	TOTAL	Field of special. / Year	PURE SCIENCE	TECHNO-LOGY	INDEXES		HUMANITIES FINE ARTS LAW	HUMANITIES	EDUCATION	SOCIAL SCIENCES	TOTAL
					AGRI-CULTURE	HUMANITIES FINE ARTS LAW	HUMANITIES									MEDICAL SCIENCES	AGRI-CULTURE					
1951/52	24		163	29	4	52	40	22		12	95	389	1951/52	100	100	100	100	100	100	100	100	100
1952/53	12		123	34	7	77	63	38		14	85	376	1952/53	50	75	117	175	148	157	173	89	97
1953/54	21		117	19	5	48	30	43		18	69	322	1953/54	87	72	66	125	92	75	195	73	83
1954/55	39		110	17	9	91	83	51		8	85	402	1954/55	162	67	59	225	175	207	232	89	103
1955/56	23		102	14	8	88	82	50		6	115	400	1955/56	96	63	48	200	169	205	227	121	103
1956/57	21		80	11	8	74	70	48		4	122	364	1956/57	87	49	38	200	142	175	218	128	94
1957/58	38		94	7	4	72	66	51		6	155	421	1957/58	158	58	24	100	138	165	232	163	108
1958/59	36		88	14	8	84	80	54		4	182	466	1958/59	150	54	48	200	162	200	245	192	120
1959/60	53		102	23	15	126	123	48		3	190	557	1959/60	221	63	79	375	242	307	218	200	143
1960/61	39		81	29	13	116	113	53		3	221	552	1960/61	162	50	100	325	223	282	241	233	142
1961/62	52		98	19	14	77	73	61		4	243	564	1961/62	217	60	66	350	148	182	277	256	145
1962/63	42		87	25	17	83	70	74		13	205	533	1962/63	175	50	96	425	160	175	336	216	137
1963/64	50		59	50	20	146	132	78		14	236	639	1963/64	208	36	172	500	281	330	355	248	164
1964/65	68		78	35	21	124	114	85		10	201	612	1964/65	283	48	121	525	238	285	386	212	157
1965/66 (a)	86	16	77	12	13	113	88	110	2	23	205	632	1965/66 (a)	358	47	41	325	217	220	500	216	162
1966/67 (a)	110	14	125	126	22	158	126	125	11	21	259	939	1966/67 (a)	458	107	434	550	304	315	568	272	241

Source : Ministry of Education - Dundonald House, Belfast.

Note : (a) The detailed figures for these years are based on new subject groupings introduced by the University Grants Committee; prior to 1965/66 the figures are based on faculty distribution. (See annex II).

Table IV

Queen's University - student enrolments (full-time and part-time)

	1951	1964	1966
Pure science	358	997	1,447
Architecture	-	-	163
Technology	501	842	926
Medical sciences	708	705	705
Agriculture	65	119	100
Humanities	674	1,410	694
Education	60	218	268
Fine arts	-	-	54
Law	85	188	253
Social sciences	189	429	1,385
Total	2,640	4,908	5,995

Source: Ministry of Education, Dundonald House, Belfast.

ANNEX II

Northern Ireland (1)

Changes in the statistical presentation

The variations in tables made up to the year 1964-65 and in those made after that year can be explained as follows:

Up to and including 1964-65

Data used up to this date are furnished in accordance with the definition of faculties inside universities, conforming to the demands of the University Grants Committee.

After 1965-66

After the university year 1965-66, the UGC changed the former definitions and adopted a definition by "group of subjects". The data have been presented in this form so that interesting comparisons can be made between Queen's University, Belfast, and the other universities of the United Kingdom who adopted this type of definition (by groups of subjects) after 1965-66.

The main differences between these data are as follows:

a) Pure science

Since 1965-66 students of the faculties of technology, medicine and agriculture studying scientific subjects have been included with the number of pure science students.

b) Architecture

This subject has been taught only since 1965-66.

c) Technology

Since 1965-66 students of technology following purely scientific courses are included in the number of pure science students.

d) Medical sciences

Since 1965-66 students of medicine studying purely scientific subjects are counted as students of pure science.

e) Agriculture

Since 1965-66 students of agriculture studying purely scientific subjects are counted as students of pure science.

f) The humanities

Before 1964-65 this group of subjects was included in the faculty of the humanities. Students of the former faculty of the humanities have now been dispersed among the humanities, the fine arts and the social sciences (see below).

g) Education

Same definition.

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(1) Answers to the "complementary questions": Queen's University of Belfast.

h) Fine arts

Formerly these subjects were included in the humanities.

i) Law

Same definition.

j) Social sciences

Before 1964-65 these subjects were taught in the faculty of economics. Since then students of the faculty of the humanities, who have chosen to study certain subjects in the social sciences, have been included in the number of students of social sciences.

SWEDEN

Higher education in Sweden is provided by five universities and various university level institutions providing education for specific professions. There are also three universities of technology.

Non-university higher education is provided by the various institutes specialising in fine arts, journalism, social studies, etc., and the "lararhögskolor", or teacher training colleges, to which only university graduates are admitted.

It must be borne in mind, in considering the figures quoted in this study, that teachers in higher education are appointed mainly on the strength of their research qualifications, and that they teach for only a few hours a week (1).

I. Criteria for recruiting and promoting teachers

There are relatively few professors holding chairs. They are usually appointed on the strength of distinguished published works, or because they held the position of director or head of department in certain research institutes. The assistant professors, "laborators", "preceptors", "prosektors" or "observators" are generally highly qualified teachers. All these members of the teaching staff are required to lecture for four hours per week. Until 1958, only professors and associate professors were permanent members of the university.

The lecturers ("lektorer"), who are usually doctors, direct class studies; their teaching load is much heavier than that of their senior colleagues (about 12 hours per week). Lecturers employed on a temporary basis are usually teachers who have demonstrated a sufficient degree of specialisation, but have not obtained their doctorate.

Persons who hold a doctor's degree with honours may be appointed to the short-term post of "docent", and as such they lecture to the highest class of students, or pursue research work in the university.

"With a few rare exceptions, full professors and associate professors are chosen from among the temporary "docents", and the same is true for the majority of established lecturers (2)."

Going down the scale, we come to the assistant professors, more and more frequently replaced by research assistants who may exceptionally be required to teach. They must be licentiates of a university or equivalent institute. The "amanuenses" are students working for a licentiate; like the assistants they help the professors with some of their tasks.

"Assistants and junior assistants fulfil many important functions. They help and serve as advisers to junior students, assist with the teaching, and sometimes lecture themselves. They take part in research work and assist in the administrative tasks of the institutes to which they are attached. Their working hours are so arranged as to give them plenty of time for their own research and study; assistants are expected to devote 1,000 hours a year to work for the institute." (3)

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(1) World Survey of Education, Volume IV, UNESCO.

(2) For further information, reference should be made to Educational Policy and Planning - Sweden, OECD, 1967, pp.194 et seq.

(3) Educational Policy and Planning - Sweden, OECD, 1967, p.196.

Members of various professions may give up part of their time to the university; many examples are to be found in the Faculty of Medicine.

II. Trends in numbers of teachers and students in higher education

1. Student/teacher ratios and numbers

UNESCO has issued some summary data for the period 1957-61, which are reproduced below.

Table A

Trend in numbers of teachers and students between 1957 and 1961

	Year I	Institution (a) II	Teaching staff III	Students IV	Student/ teacher ratio IV/III
Universities and institutes awarding equivalent degrees	1961-62	39	1,934	40,184	20.8
	1960-61	36	1,838	36,909	20.1
	1959-60	35	1,712	32,902	19.2
	1958-59	28	1,576	30,113	19.1
	1957-58	27	1,427	27,216	19.1

Source: World Survey of Education, UNESCO, Volume IV.

Note: (a) The establishments included for 1961-62 are the following:

18 faculties, 3 institutes of technology, 1 institute of pharmacy, 1 central institute of gymnastics, 2 institutes of physio-therapy, 2 teacher training institutes, 3 social service institutes, 1 dairy industry section at the Alnarp Institute, 2 colleges of economics, 3 colleges of dentistry, 1 college of veterinary science, 1 college of agriculture, 1 college of forestry.

Some further information on the number of students per teacher has been supplied by OECD (1).

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(1) See Educational Policy and Planning - Sweden, op.cit., page 198:

Student/teacher ratios in selected faculties

Faculties	1956	1960	1963	1965
Theology	13	23	25)	25
Law	34	31	29)	
Humanities and social sciences	26	23	) 26)	
Economics	31	23	22)	
Natural sciences	8	8	8	9
Medicine) Dentistry) Pharmacy)	7	7	7	5
Technology	13	8	8	6
Average ratios	14	12	13	12

"Student/teacher ratios, i.e. the number of registered students per teacher (all categories, including assistants) are shown in the table for 1956, 1960 and 1963. Estimates are also given for 1965, but the figures for that year are not fully comparable to the others, as a somewhat broader definition of "teacher" has been used for 1965. Thus, certain research and medical assistants are included in the latter year.

Furthermore, the faculties of theology, law, economics and humanities have been added together."

For the years 1965-1968, a general estimate and a breakdown by field of study were made with the help of the "Hogre utbildning och forskning i sverige". This source indicates a total number of teachers in universities or equivalent institutions, and in some other post-secondary institutes, of 5,326 in 1965, and 7,224 in 1968. Table I in annex shows the breakdown by level of the teaching staff. The number of senior level teachers appears particularly high in both years.

Student/teacher ratios have been calculated from tables I and II in annex, and are shown below in table B.

Table B

Student/teacher ratios by field of study and
by level of teachers in higher education
(1965 and 1968)

Field of study		S/SL	S/ML	S/JL	S/SL+ML	S/Total
Pure science	1965	23.0	102.8	14.3	18.8	8.1
	1968	33.2	119.7	23.6	26.0	12.4
Technology	1965	24.8	523.6	12.6	23.7	8.2
	1968	26.9	356.4	13.3	25.0	8.7
Medical sciences	1965	14.1	31.2	16.9	9.7	6.2
	1968	15.2	27.0	17.4	9.7	6.2
Agriculture	1965	5.9	6.9	10.0	3.2	2.4
	1968	6.9	7.6	11.7	3.6	2.8
Humanities	1965	44.1	117.2	122.7	32.0	25.4
	1968	56.5	167.7	186.5	42.2	34.4
Education	1965	74.5	29.8	149.0	21.3	18.6
	1968	64.3	12.9	90.0	10.7	9.6
Law	1965	45.1	767.3	219.2	42.6	35.7
	1968	97.4	1,728.0	300.5	92.2	70.5
Social sciences	1965	62.1	207.1	91.6	47.8	31.4
	1968	67.8	201.5	150.8	50.7	38.0
Total	1965	31.0	94.0	30.8	23.3	13.3
	1968	37.8	78.4	44.7	25.5	16.2

2. Average annual growth rates by field of study between 1965 and 1968

The number of teachers, classified by level, and the number of students increased as follows between 1965 and 1968.

Table C

Average annual rates of increase in the numbers of teachers and students in higher education (1965-1968)

(in percentages)

Field of study	Teachers				Students
	SL	ML	JL	Total	
Pure science	4.8	12.5	0.2	2.9	18.4
Technology	6.7	25.0	7.8	7.8	9.6
Medical sciences	5.1	13.0	6.7	7.4	7.8
Agriculture	0.8	2.8	1.1	1.6	6.2
Humanities	7.1	3.1	1.1	5.0	16.3
Education	21.0	50.0	36.0	43.0	14.7
Fine arts	2.5	4.4	26.0	5.4	-
Law	1.5	0.0	18.0	4.4	31.0
Social sciences	18.1	23.0	3.0	14.1	22.0
Total	10.6	26.0	4.4	10.5	18.2

Source: Tables I and II in annex.

The first point to be noted from table C is that the student numbers grew more than proportionally when compared to the numbers of teachers in all fields of study except education, where the rate of growth in teachers was particularly high.

It will also be seen that the growth rates in the numbers of teachers differed widely according to level, and was especially low for junior level teachers in pure science, agriculture, humanities and social sciences. In technology and the medical sciences, the numbers of junior level teachers grew more slowly than the student numbers (and in the second case, more slowly than the average for all teachers). On the other hand, the number of middle level teachers showed a rapid increase in pure science, technology, the medical sciences, education and social sciences, although in pure science the average annual growth rate in student numbers was still higher than that for medium level teachers.

Generally speaking, the change in the number of teachers was relatively slow in pure science and law. In agriculture, humanities and social sciences, too, the total number of teachers grew much more slowly than that of students.

3. Structural changes in the teaching body

The very short period over which the trend in the number of teachers, by level, was examined obviously cannot reveal any profound structural changes in the profession although, as we have seen, the growth rates in numbers of teachers varied widely according to level.

In considering table D, the reader should bear in mind that the changes noted occurred over a period of only three years.

Table D

Structural changes in the teaching body
(1965-1968)

Total number of teachers = 100

Field of study	1965-66			1967-68		
	SL	ML	JL	SL	ML	JL
Pure science	35.4	7.9	56.7	37.3	10.3	52.4
Technology	33.2	1.6	65.2	32.3	2.4	65.3
Medical sciences	43.7	19.8	36.5	41.1	23.1	35.8
Agriculture	40.9	35.0	24.1	40.0	36.3	23.7
Humanities	57.6	21.7	20.7	61.0	20.5	18.5
Education	25.0	62.5	12.5	14.9	74.5	10.6
Fine arts	15.8	79.3	4.9	14.6	77.1	8.3
Law	79.0	4.7	16.3	72.4	4.1	23.5
Social sciences	50.5	15.2	34.3	56.0	18.8	25.2
Total	42.8	14.1	43.1	[illegible]	20.7	36.8

Source: See table I in annex.

Apart from these structural changes in the composition of the teaching body, classified by level, the available data gave no indication of the means employed to cope with the growth in student numbers, nor of the proportion of women teachers or part-time teachers in the total.

III. Conclusions

Both for the first period (as shown by the UNESCO figures) and for the second, the change in the number of teachers seems to have been slower than for students. The student/teacher ratios have thus deteriorated, in higher education as a whole, and also, as confirmed by table B, for the years 1965-68 in every field of study taken separately (except medical sciences, where the ratio remained constant).

ANNEX I

ANNEX I

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS

(Universities, university type institutions and some post secondary institutions i.e."socialhögskolor, GCI, lärarbögskolor") (a)

PERSONNEL ENSEIGNANT PAR STATUT.ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE

(Universités, établissements de type universitaire et quelques établissements d'enseignement post secondaire tels que les "socialhögskolor, GCI, lärarbögskolor") (a)

SL = Senior Level (b) Statut Supérieur = SS (b)
ML = Middle Level (b) Statut Moyen = SM (b)
JL = Junior Level (b) Statut Inférieur = SI (b)

COUNTRY SWEDEN
PAYS SUEDE
TABLE I
TABLEAU I

Field of specialization / Branches Year / Année	PURE SCIENCE SCIENCES PURES				TECHNOLOGY TECHNOLOGIE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES				EDUCATION (c)				FINE ARTS BEAUX ARTS				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				OTHER AUTRES				TOTAL			
	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T	SL SS	ML SM	JL SI	T
																									Non university Non universitaire																			
ABSOLUTE FIGURES/CHIFFRES ABSOLUS																																												
1965-1966	451	101	724	1 276	338	16	664	1 018	493	223	411	1 127	160	137	94	391	409	154	147	710	4	10	2	16	13	65	4	82	68	4	14	86	370	111	231	732					2 291	756	2 307	5 356
1966-1967	461	131	764	1 356	375	23	707	1 105	498	265	449	1 212	163	150	100	413	442	169	162	773	5	8	3	16	13	72	4	89	69	4	18	91	436	145	316	897					2 349	895	2 519	5 863
1967-1968	483	131	721	1 335	403	24	726	1 153	526	288	470	1 284	160	147	95	402	448	169	159	776	5	32	3	40	13	73	5	91	69	4	19	92	494	177	339	1 010					2 590	972	2 532	6 094
1968-1969 (1)	519	144	729	1 392	411	31	832	1 274	573	322	500	1 395	164	149	97	410	502	169	152	823	7	35	5	47	14	74	8	96	71	4	23	98	609	203	274	1 086	248	437	12	697	3 104	1 496	2 624	7 224
INDEXES / INDICES																																												
1965-1966	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	-	-	-	-	100	100	100	100
1966-1967	102	130	106	106	111	144	106	109	101	119	109	108	102	109	106	106	108	110	110	109	125	80	150	100	100	111	100	109	101	100	129	106	118	131	126	123	-	-	-	-	107	118	109	109
1967-1968	107	130	100	105	119	150	109	113	107	129	114	114	100	107	101	103	110	110	108	109	125	320	150	250	100	112	125	111	101	100	136	107	134	159	135	138	-	-	-	-	113	129	110	114
1968-1969	115	143	101	109	122	194	125	125	116	144	122	124	103	109	103	105	123	110	103	116	175	350	250	294	108	114	200	117	104	100	164	114	165	165	109	149	-	-	-	-	135	198	114	135

Source : "Högre Utbildning och Forskning i Sverige", 1965, 1966, 1967, 1968 (Higher Education and Research in Sweden/ Enseignement supérieur et recherche en Suède.

Notes : (a) Establishments taken into account/Etablissements considérés :

1965-1968 :

Pure Science/Sciences pures	: Matematik naturvetenskaplig fakultet (Faculties of Sciences/Facultés des sciences) : Uppsala, Lund, Stockholm, Umeå, Goteborg.
Technology/Technologie	: Tekniska högskolor (Institutes of Technology/Ecoles supérieures de technologie) : Uppsala, Lund, Stockholm, Göteborg.
Medical Science/ Sciences médicales	: Medicinsk fakultet (Faculty of Medicine/Faculté de médecine) : Lund, Stockholm, Umeå, Göteborg, Uppsala. Odontologisk fakultet (Colleges of Dentistry/Ecoles dentaires) : Lund, Stockholm, Umea Göteborg. Farmaceutisk fakultet (Institute of Pharmacy/Ecole de Pharmacie) Uppsala.
Agriculture	: Lantbrukshögskolor (Colleges of Agriculture/Ecoles d'agriculture) : Uppsala, Lund. Alnarpinstitut (Dairy sciences/Institut agricole, laitier et horticole Alnarp) : Lund. Veterinärhogskolan (Veterinary College/Ecole vétérinaire) : Stockholm. Skoghögskolan (College of Forestry/Ecole de sylviculture) : Stockholm.
Humanities/ Lettres	: Humanistisk fakultet (Faculty of Humanities/Faculté de lettres) : Uppsala, Lund, Stockholm, Umeå, Göteborg. Teologisk fakultet (Faculty of Theology/Faculté de théologie) : Uppsala, Lund.
Fine Arts/Beaux-arts	: Konsthögskolor and Musikhögskolor (School of Fine Arts and Music/Ecole d'art et de musique) : Stockholm. Theatre (Drama schools/Ecoles d'Art dramatique) : Stockholm, Malmö, Göteborg.
Education	: Gymnastiska centralinstitutet (Schools of Physical Education/Instituts d'éducation physique):Stockholm,Orebro.
Law/Droit	: Juridisk facultet (Faculty of Law/Faculté de droit) : Uppsala, Lund, Stockholm.
Social Sciences/Sc.sociales	: Handelshögskolor (High schools of Business Administration/Ecoles supérieures de commerce): Göteborg;Stockholm. Samhällsvetenskaplig fakultet (Faculties of Social Sciences/Facultés de sciences sociales) : Uppsala, Lund, Stockholm, Umeå, Göteborg. Socialhögskolor (Colleges for Social Services/Ecoles supérieures de service social) :Lund, Stockholm, Umeå, Orebro, Göteborg. Journalistinstitut (Colleges of Journalism/Ecoles de journalisme) : Göteborg, Stockholm.
Others/Autres	: Lärarhögskolor (Teacher training colleges/Ecoles normales) Because of the reorganisation of these teacher training colleges, no comparison with earlier years is possible. Ces Ecoles normales ayant été réorganisées, aucune comparaison avec les années antérieures n'est possible.

(b) Classification of teachers by status/Classification des enseignants par statut :

Senior level/Statut Supérieur :

Professor, Laborator, Preceptor, Universitetslektor, Docent, Forskardocent, Lärare(med.fak.), [illegible] agronom (Lautbrukshögskolan), Stabbortonom (Lautbrukshögskolan), Avdelningstandlärare (odont.fak.), Lärare i metodik och praktisk lärarutbildning (musik), lektor i pedagogik, lektor i ämnesteori och ämnesmetodik eller ämnesmetodik Uo 22 (lärarhögskola)

Professors supplementary hours divided by 132 = x professors. / Le nombre des heures supplémentaires divisé par 132 correspond à x professeurs à plein temps inclus dans le total.

Middle Level/ Statut Moyen :

Universitetsadjunkt, Utländsk lektor, Biträdande lärare, Speciallärare, Forskarassistent, Lektor, Lärare, Klinisk amanuens (med.fak.)

Lektors supplementary hours (including utländsk lektor hours) divided by 396 = y lektorer. /Le nombre des heures supplémentaires des Lektors (y compris les "utländsk lektors) divisé par 396 correspond à y lektorer à plein temps inclus dans le total.

Junior Level/Statut Inférieur :

Assistenter, Amanuenser / Assistants et autres enseignants de même niveau.

(c) Only physical education / Education physique seulement.

(1) The figures for 1968/1969 include the teachers at the decentralized branches of the universities which was not possible to estimate in the earlier years. / Les chiffres pour 1968/1969 distinguent les enseignants des universités par branche, ce qui n'a pu être réalisé pour les années précédentes.

In a certain number of places data concerning supplementary hours are lacking e.g. for the teacher training colleges.

Pour divers établissements on manque de données concernant les heures supplémentaires, c'est-à-dire pour les écoles normales.

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS (a)
(ALL HIGHER EDUCATION)
EFFECTIFS D'ETUDIANTS DANS LES ETABLISSEMENTS (a)
DE TYPE UNIVERSITAIRE
(ENSEMBLE DE L'ENSEIGNEMENT SUPERIEUR)

COUNTRY : SWEDEN
PAYS : SUEDE
TABLE : II- Absolute figures and Indexes
TABLEAU: II- Chiffres absolus et Indices

Years / Années Field of specialisation/Branches d'étude	1965/66		1966/67		1967/68		1968/69 (c)(d)	
	TOTAL	INDICES INDEXES	TOTAL	INDICES INDEXES	TOTAL	INDICES INDEXES	TOTAL	INDICES INDEXES
Pure Sciences Sciences pures	10 386	100	12 103	117	14 770	142	17 232	166
Technology Technologie	8 377	100	9 251	110	10 526	126	11 047	132
Medical Sciences Sciences médicales	6 947	100	7 316	105	7 790	112	8 698	125
Agriculture	943	100	996	106	1 069	113	(e) 1 131	120
Humanities Lettres	18 044	100	21 608	120	23 329	129	28 349	157
Education (b)	298	100	380	128	450	151	450	151
Law Droit	3 069	100	4 187	136	5 578	182	6 912	225
Social Sciences Sciences sociales	22 986	100	27 930	122	34 871	152	41 309	180
Other Autres		-		-		-	(f) 2 143	-
Total	71 050	100	83 771	118	98 383	138	117 271	165

Notes : (a) For source and breakdowns by field of specialisation, see table I.
(b) Physical training only.
(c) For this year, the source is different : "Statistika Meddlanden" from the Central Bureau of Statistic (report n° U 1969:6).
(d) See note b, table I.
(e) Does not include "Alnarpinst." (Agriculture).
(f) Include only "Lärarhögskolas ämneslärarlinje" (Education).

Notes : (a) Pour source et composition des branches, voir tableau I.
(b) Education physique seulement.
(c) Pour cette année seulement, la source est différente : "Statistika Meddlanden" du Bureau central de statistique (rapport n° U 1969:6).
(d) Voir note b, tableau I.
(e) Ne comprend pas "Alnarpinst." (Agriculture).
(f) Comprend seulement "Lärarhögskolas ämneslärarlinje" (Education).

SWITZERLAND

There is no Federal authority responsible for education in Switzerland, but the "Education, Science and Arts Division" attached to the Department of the Interior deals with certain educational questions. The only two educational institutions for which the Federal Government is responsible are the Federal Polytechnic School in Zurich, and, since 1st January 1969, the Lausanne University Polytechnic School, other institutions coming under the competent Cantonal authorities. It is thus difficult to state any general rules governing the hierarchy of the teaching profession in Switzerland.

Some general criteria however can be discerned, in spite of cantonal differences.

I. Criteria for the recruitment and promotion of teaching staff

A distinction is generally made between ordinary and extraordinary professors; for some of the latter, teaching is a subsidiary occupation. Professors put in about seven hours' teaching a week, or longer in the exact sciences, assisted by chargés de cours, privat-docents, readers and assistants. A privat-docent must be recognised by the university for some piece of academic work. This normally constitutes the first rung of the academic ladder. Likely candidates may, however, be offered specific posts. The privat-docent must also be a specialist in his own field. The terms and criteria for recruiting staff vary appreciably from Canton to Canton (1). The number of assistants also varies widely according to the Canton and faculty concerned.

The "Report of the Federal Advisory Commission on Aid to Universities" estimated that in 1962-63 there were some 600 ordinary professors, representing about 30 per cent of the teaching body. Nearly all (94 per cent) made teaching their chief occupation. Ordinary professors play an important role as most of them occupy chairs for which statutory provision is made. The present structure of the Swiss universities is largely based on such chairs, and teaching and research revolve around them. Furthermore, ordinary professors are usually appointed to the chief university functions (Rectorate, heads of scientific institutes and teaching hospitals).

It has been evident for some time past that the "cumulative burden of teaching, research and administrative work is often beyond the capacity of a single person(2)". Other solutions are therefore being tried. For example, an institute or teaching hospital may be directed by a panel of professors; the teaching in a given discipline may be provided by several professors of the same rank, etc.

In addition to these 600 ordinary professors, there were about 350 extraordinary professors, representing some 17 per cent of the whole teaching body. For three-quarters of them, university teaching was their main occupation. There are considerable differences between full-time extraordinary professors (who play a similar role to that of ordinary professors) and part-time extraordinary professors.

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(1) In the Canton of Vaud, for example, extraordinary professors are ostensibly employed on a full-time basis, while in Basle this applies only to ordinary professors.

(2) Report of the Federal Advisory Commission on Aid to Universities headed by Labhardt.

Assistant professors represented barely 2 per cent of the total teaching body, but in 1962-63, there were 500 privat-docents, representing about 25 per cent of the teaching body. Such staff cost the university remarkably little, as in general they have a principal occupation, and ipso facto, may tend to become scarcer as time goes on. Nearly all the chargés de cours work on a part-time basis. In 1962-63, they represented about 18 per cent of the teaching body. University readers in French Switzerland occupy a position comparable to that of chargés de cours in German Switzerland, and represented 8 per cent of the teaching body. Like chargés de cours, readers nearly always teach on a part-time basis.

To complete the picture, some visiting professors are employed, but they have always been few in number.

II. Trends in numbers of teachers and students in higher education from 1950 to 1963

It will be noted that junior level teachers are not included in the statistics given below. This means that any attempt at international comparison must be of very limited scope as, especially during the last ten years, many countries have coped with the rapid rise in requirements of teachers caused by the considerable increase in student numbers by making wide use of junior level teachers.

1. Student/teacher ratios and numbers

Tables I and II in annex show the numbers of university teachers and students in a few main fields of study. The figures are taken from the Statistical Yearbooks of Switzerland (1950-1964), and cover only senior and middle level teachers.

Some additional information is, however, provided by the "Federal Council's Message to the Assembly on Federal Assistance to the Cantonal Universities", which gives the total number "of teachers and their assistants" as 5,000 in 1963. Some details of the distribution of assistants were supplied by the Federal Advisory Commission on Aid to Universities, and are summarised below:

Table A

Full-time (a) research, administrative and technical assistants classified by faculties

Winter 1962/63	Research assistants	Administrative and technical assistants
Science	539.5	456.5
Technology	384.5 (b)	830.5 (b)
Medicine	1,264.5	-
Veterinary medicine	44.5	71.0
Humanities	94.0	29.5
Law and social sciences	64.0	26.5
Total	2,391.0	1,414.0

Source: op.cit.

Notes: (a) Including part-time assistants classified as full-time, owing to the importance of their work.

(b) For the Federal Polytechnic, Zurich, there should be added to this figure over 2,000 academic, technical and administrative assistants. These are paid out of special funds under private contract, or employed in ancillary institutions.

Various student/teacher ratios were calculated from tables I and II in annex, as shown in table B.

Table B

Student/teacher ratios in 1952 and 1963

	S/SL	S/ML	S/SL+ML	S/SL	S/ML	S/SL+ML
		1952			1963	
Pure science + technology + agriculture + architecture + fine arts	19.5	29.6	10.9	24.6	34.8	14.4
Medical sciences	18.7	18.6	9.3	18.4	14.2	8.8
Humanities and education	11.6	18.6	7.2	24.2	29.7	13.3
Law and social sciences	26.0 (a)	31.1 (a)	19.1	36.5	40.2	14.2
Total	13.1	17.7	7.3	25.2	29.8	13.7

Note: (a) 1951.

UNESCO estimated the number of university teachers at 2,404 in the year 1961-62, when the number of students was about 23,437 (1). The student/total number of teachers ratios would thus be 1/9.7.

Additional information on distribution of teaching body

Some supplementary data were obtained for 1965-66 and 1966-67. The total number of senior level teachers seems to have been 2,342 in 1965-66, of which 1,151 were established teachers and 1,191 on contract. In 1966-67, the total number was only 2,304, of which 1,069 were established teachers, and 1,235 on contract. The statistics seem to indicate, however, that the staff of the Federal Polytechnic, Zurich, were not included in these figures. The last line of table C shows the division of different categories of staff in all fields of study for the year 1962/63. The distribution of the teaching body by field of study in 1962-63 was as shown in table C, based on the indications of the Labhardt Report.

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(1) World Survey of Education, Volume IV.

Table C

Breakdown of teaching staff by level and main field of study, 1962-63

Level / Field of study	Professors			Privat-docents	Chargés de cours	Readers
	ordinary	extra-ordinary	honorary and assistant			
Science	30%	22%		24%	16%	
Technology and architecture	29%	16%		20%	28%	
Agronomics	38%	17%		28%	15%	
Medical sciences	25%	20%		48%	4%	
Humanities	87%	31%		29%	23%	
Law and social sciences	34%	17%		17%	27%	
Rounded average	30%	17%	2%	25%	18%	8%

Complementary data on student/teacher ratios

The study referred to above also gave the student/full-time teacher ratios, by main field of study, for the year 1962-63. The ratios are given below.

Table D

Student/full-time teacher ratio in 1962/63

Theology	13
Humanities	34
Law, economics and social sciences	49
Medicine	27
Veterinary medicine	8
Science	23
The Federal Polytechnic School, Zurich, the Lausanne University Polytechnic School and the Geneva School of Architecture	35
Average	35

The average number of students attending lectures and taking part in practical work, by field of study, are still more interesting - see tables E and F below.

Table E

Average number of students attending lectures (1962-63)

	10 or less	11 to 20	21 to 40	41 to 100	100 or over	Total
Theology	21	21	26	26	6	100
Humanities	12	25	25	26	12	100
Law, economics and social sciences	9	18	20	37	16	100
Medicine	10	15	23	38	14	100
Veterinary medicine	41	46	13			100
Science	20	28	25	16	11	100
Federal Polytechnic School, Zurich - Lausanne University Polytechnic School - Geneva School of Architecture	11	18	19	27	25	100
Average	13	21	23	28	15	100

Table F

Average number of students taking part in practical work (1962-63)

	10 or less	11 to 20	21 to 30	31 to 60	61 or over	Total
Theology	31	38	18	11	2	100
Humanities	26	29	15	21	9	100
Medicine	16	16	13	28	27	100
Veterinary medicine	46	42	12			100
Science	26	35	14	15	10	100
Federal Polytechnic School, Zurich - Lausanne University Polytechnic School - Geneva School of Architecture	18	23	14	21	24	100
Law, economics and social sciences	12	20	19	30	19	100
Average	22	27	15	21	15	100

Source: Labhardt Report, pp.43 and 45.

2. Annual growth rates of university enrolments 1950-1963

These rates are shown in table G:

Table G

Annual growth rates of university enrolments between 1950 and 1963

(in percentages)

	Teachers			Students
	SL	ML	SL + ML	
Pure science, technology, architecture, fine arts	2.3	2.9	2.3 (a)	4.9 (a)
Medical sciences	1.5	2.1	1.8	1.3
Humanities and education	0.2	2.2	1.0	6.0
Law and social sciences (1951-63)	1.9	2.8	2.2	4.8
Total	1.4	2.4	1.8 (a)	5.0 (a)

Source: Tables I and II, annex I.
Note: (a) for the period 1952-1963.

It will be seen that, except in medical sciences, trends in number of teachers, overall or separately for senior and middle level teachers, have always increased more slowly than student numbers. Table H indicates the changes in the respective proportions of senior and middle level teachers.

III. Composition of the teaching body at university level

Few data are available on this point. In particular, the lack of statistics on assistants and other junior level teachers makes it impossible to distinguish generally between teachers at the three levels usually considered. Table I shows between brackets the number of assistants at the Federal Polytechnic.

The UNESCO "World Survey of Education" (Volume IV) reckoned that there were 1,282 part-time teachers in 1961-62 out of a total of 2,404 - about 53.3 per cent.

Similarly, the figures for 1965 and 1966 show 1,151 and 1,069 established teachers, against 1,191 and 1,235 auxiliary teachers, respectively, so that the latter represented 50.9 per cent in 1965 and 53.6 per cent in 1966 of the whole teaching body.

No data have been collected on the numbers of women teachers in higher education, nor on overtime worked.

IV. Conclusions

This study of quantitative trends in teaching staff in higher education in Switzerland covered only a fraction of the total number, i.e. senior and middle level teachers.

Except in the case of medical sciences, the trend has been in the direction of a larger student/teacher ratio.

Data collected from different sources indicate that over 50 per cent of teachers were employed on an auxiliary basis.

Table H

Structural changes in the teaching staff in university-type education (concerns only SL+ML)

(as percentage of total SL and ML teachers)

Level Field of study		SL	ML
Pure science Technology Architecture Agriculture Fine arts	1950/51	60.2	39.8
	1963/64	58.6	41.4
Medical sciences	1950/51	49.7	50.3
	1963/64	47.8	52.2
Humanities + education	1950/51	61.5	38.5
	1963/64	55.2	44.8
Social sciences + law	1950/51	54.1	45.9
	1963/64	52.4	47.6
Total	1950/51	57.1	42.9
	1963/64	54.2	45.8

ANNEX I

Table I

TEACHING STAFF (FULL-TIME AND PART-TIME) BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY TYPE INSTITUTIONS

SL = Senior Level(a)
ML = Middle Level(a)
JL = Junior Level(a)

Absolute Figures

Year \ Field of special.	PURE SCIENCE, TECHNOLOGY ARCHITECTURE, AGRICULTURE AND FINE ARTS				MEDICAL SCIENCES				HUMANITIES AND EDUCATION				SOCIAL SCIENCES AND LAW				TOTAL			
	SL	ML	JL(b)	T	SL	ML	JL	T	SL	ML	JL	T	SL	ML	JL	T	SL	ML	JL	T
1950/51	309	204	(220)	513	185	187		372	268	168		436	152	129		281	914	688		1,602
1951/52	306	223	(226)	529	191	184		375	268	189		457	148	124		272	913	720		1,633
1952/53	321	231	(222)	552	191	187		378	262	191		453	156	123		279	930	732		1,662
1953/54	322	239	(237)	561	299	201		400	269	185		454	166	117		283	956	742		1,698
1954/55	328	214	(237)	542	200	206		406	274	195		469	169	131		300	971	746		1,717
1955/56	328	237	(239)	565	205	215		420	270	196		466	168	138		306	971	786		1,757
1956/57	346	248	(254)	594	216	215		431	274	209		483	171	155		326	1,007	827		1,834
1957/58	380	265	(280)	645	213	223		436	284	198		482	180	146		326	1,057	832		1,889
1958/59	390	286	(282)	676	222	218		440	288	199		487	181	153		334	1,081	855		1,937
1959/60	409	281	(302)	690	237	231		468	299	198		497	187	151		338	1,132	861		1,993
1960/61	387	283	(307)	670	234	238		472	295	217		512	184	158		342	1,100	896		1,996
1961/62	404	300	(335)	704	224	251		475	301	224		525	177	163		340	1,106	938		2,044
1962/63	396	273	(387)	669	213	228		441	273	206		479	168	155		323	1,050	862		1,912
1963/64	418	295	(406)	713	224	245		469	273	222		495	185	168		353	1,100	930		2,030
1964/65																				
1965/66 (c)																				
1966/67 (c)																				

Sources : Statistical yearbooks of Switzerland.

Notes : (a) In general, the following definitions should be understood: SL = ordinary, extraordinary and honorary professors; ML = lecturers, "privat-docents" and titular professors; ML = lecturers, "privat-docents" and titular professors. However, statistics for the Federal Polytechnic Schools have been based on a slightly different definition; SL = ordinary and extraordinary professors; ML = "privat-docents" (but not lecturers, which, according to the Labhardt report, numbered 90 in 1962/63). Similarly, the law statistics of Saint-Gall are based upon the following conception: SL = ordinary and extraordinary professors; ML = honorary and titular professors, "privat-docents", lecturers, professors of public courses.

(b) Only assistant lecturers of the Federal Polytechnic School. To ensure comparability these figures have not been included in the total.

(c) Total teachers 1965 and 1966:

	Established	Auxiliary	Total
1965/66	1,151	1,191	2,342
1966/67	1,069	1,235	2,304

Table I bis (Indexes)

Teaching staff (full-time and part-time) by status and field of specialisation in university-type institutions

Field of specialisation / Year	Pure science, technology, architecture, agriculture & fine arts		Medical sciences	Humanities & education	Social sciences & law	Total		
	JL	T	T	T	T	SL	ML	T
1950/51	(100)	100	100	100	100	100	100	100
1951/52		103	101	105	97	100	105	102
1952/53		108	102	104	99	102	106	104
1953/54		109	108	104	101	105	108	106
1954/55		106	109	108	107	106	108	107
1955/56		110	113	107	109	106	114	110
1956/57		116	116	111	116	110	120	114
1957/58		126	117	111	116	116	121	118
1958/59		132	118	112	119	118	124	121
1959/60		135	126	114	120	124	125	124
1960/61		131	127	117	122	120	130	125
1961/62		137	128	120	121	121	136	128
1962/63		130	119	110	115	115	125	119
1963/64	(185)	139	126	114	126	120	135	127
1964/65								...
1965/66								146 (a)
1966/67								144 (a)

Source: See table I.

Note: (a) See note (c) on table I.

Table II - Absolute figures & indexes
Student enrolments in university-type institutions (a)

Field of specialisation / Year	Technology and agriculture		Medical sciences		Humanities and education		Law and social sciences		Total	
	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes
1950/51	-		3,469	100	3,122	100	-		-	
1951/52	-		3,466	100	3,009	96	3,860	100	-	
1952/53	6,039	100	3,414	98	2,968	95	3,788	98	16,209	100
1953/54	6,000	99	3,453	100	3,049	98	3,682	95	16,184	100
1954/55	5,444	90	3,373	97	3,099	99	3,682	95	15,598	96
1955/56	5,637	93	3,326	96	3,391	109	3,586	93	15,940	98
1956/57	5,986	99	3,183	92	3,585	115	3,693	96	16,447	101
1957/58	6,648	110	3,261	94	3,875	124	3,825	99	17,609	109
1958/59	7,171	119	3,284	95	4,251	136	4,074	106	18,780	116
1959/60	7,574	125	3,279	95	4,691	150	4,347	113	19,891	123
1960/61	7,096	118	3,355	97	5,029	161	4,784	124	20,264	125
1961/62	8,804	146	3,682	106	5,513	177	5,367	139	23,366	144
1962/63	9,558	158	3,840	111	6,193	198	6,048	157	25,639	158
1963/64	10,267	170	4,127	119	6,604	212	6,755	175	27,753	171

Source: Statistical yearbooks of Switzerland, 1951-1964.

Note: (a) In the statistical yearbooks of Switzerland the following groups of students have been distinguished: theology, law, medical sciences, humanities and sciences. Included with the faculty of law are: schools of political science, economic sciences, social sciences (with the exceptions mentioned below) and commercial sciences of Berne, Fribourg, Geneva, Lausanne, Neuchatel and Zurich; the institute for economic and social studies of St. Gallen is included in law. Included with the faculty of medicine are: the sections of dentistry and veterinary medicine (with the exceptions mentioned below). Included with humanities are: the Basle schools for political and social sciences, the teacher training school of Berne, as well as the school of interpreters and the school of sciences of education in Geneva. Included with the faculty of sciences (technology) are: in Berne: the teacher training school; in Fribourg: the school of medicine; in Geneva: the school of architecture; in Lausanne: the school of pharmacy. The polytechnical institute of Lausanne and the federal polytechnical institute are also included in technology.
These remarks also apply to the tables concerning teaching staff.

TURKEY

Almost all Turkish universities are public institutions but each was established by separate legislation. They are self-governing bodies and not attached to any government department.

I. Criteria for recruitment and promotion of teaching staff

In Turkey, university professors are generally appointed to chairs, and as such are responsible for the teaching of particular subjects. Apart from their own lectures, they supervise the various teaching activities of the staff in their department and direct certain practical work. Research staff, scientists or eminent artists may be asked to give lectures in their special subjects. Assistant professors supplement the lectures of the professors, particularly by organising and supervising periods of practical work. They are helped by assistants. Lecturers teach subsidiary subjects, e.g. foreign languages, etc.

It has not been possible to determine the percentage of unqualified teachers. Criteria for selection are as follows: candidates must have a university degree or good practical experience and must be approved by the Ministry of Education or by the Council of Professors of the institute or university in which they will be called upon to exercise their duties.

In addition to the teaching staff there are translators, librarians, etc., who directly or indirectly contribute to the teaching activities of the academic staff. Teaching staff are allowed to accept paid work outside the university, provided that these activities do not exceed ten hours per week. Promotion is automatic and takes place every three years.

II. Trends in numbers of teachers and students in higher education

A. University education

1. Student/teacher ratios and numbers

The number of teachers and students in Turkish universities during the period 1950/65 are shown in tables I and II in annex. It has not been possible to make a breakdown of teachers by level.

Table A shows the student/total teacher ratios in 1950 and 1965:

The preceding information and the data shown in the annex may usefully be supplemented by the figures collected in the course of preparation of the Mediterranean Regional Project for Turkey.(1)

Table B, based on the replies to MRP questionnaires, also gives an idea of the position of teachers in higher education between 1954 and 1964.

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(1) MRP/Turkey, OECD, Paris, 1965.

Table A

Student/teacher ratios
1950-1965

	1950	1965
Pure science	10.9	13.0
Architecture	6.5	6.7
Technology	6.9	10.2
Medical sciences	9.5	5.9
Agriculture	7.2	9.5
Humanities	12.1	33.9
Education	9.3	14.0
Fine arts	3.1	5.7
Law	66.0	77.4
Social sciences	24.2	23.9
Other subjects	(a)	(a)
Total	13.4	14.2

Note: (a) The group "other subjects" as shown in tables I and II in the annex is divided into two parts applying to two distinct periods:

- from 1950 to 1957 it includes technical schools for girls and boys, the advanced teacher training college, the advanced school of commerce, the technical college, various nursing schools, the advanced institute of Islamic studies, the police institute, the school of mining technology, the advanced section of the Robert College, the Florence Nightingale advanced school for nurses, etc. During this period the student/teacher ratio fell from 7.5 to 7.
- between 1958 and 1965, the group "other subjects" covers only naval colleges. The student/teacher ratio fluctuated around 7.

Table B

Student/teacher ratios for selected fields of higher education between 1954 and 1963

University	Schools of engineering and architecture	Sciences	Medical sciences	Veterinary science	Forestry
1954-55	8.0	6.4	5.7	4.6	27.3
1955-56	7.0	8.7	5.2	6.2	32.8
1956-57	7.2	9.7	5.0	6.3	45.2
1957-58	7.1	10.4	5.8	6.6	60.0
1958-59	7.0	10.8	5.2	5.9	47.5
1959-60	7.0	12.8	4.1	5.6	50.5
1960-61	7.1	16.6	4.4	5.5	52.2
1961-62	6.4	13.6	3.9	4.4	50.1
1962-63	6.3	14.2	3.4	3.5	48.8
1963-64	6.1	10.5	3.7	3.5	48.2

The authors of the MRP survey on Turkey called attention to growing gap between demand and supply in the case of teaching personnel. According to them the overall student/teacher ratio would have been 14 in 1950 and 17 in 1955 and 1962 (1). The figures given appear to relate to university education and a number of non-university institutions of higher education. The same survey gave a ratio for science and humanities together of 9 in 1935 and 30 for 1962.

For higher technical education (university and non-university levels) the MRP report on Turkey gave the information summarised in the following tables.

According to table C a very considerable effort would appear to have been made by 1960, as by this year the teaching body would have increased by 63 per cent whereas the number of students would have remained constant. Between 1935 and 1960 the number of students would have increased twice as fast as the number of teachers. Moreover, the situation would be still more unfavourable if the period 1935-1957 or 1935-1959 were considered. A very definite improvement was achieved between 1958 and 1960. But tables I and II in the annex show a different figure for teachers from that given in the above publication, although student figures are fairly similar. In particular, the "leap forward" in the number of teachers forecast for 1960 is not seen in the tables in the annex.

In medical sciences the above-mentioned report gave the figures summarised in table D.

These figures roughly confirm those shown in the tables in annex. They indicate a deterioration in the teacher/student ratio between 1935 and 1945 followed by a definite improvement owing to the rapid increase in the number of teachers.

In agriculture the figures provided in the MRP study on Turkey are rather different from those put forward in the annex tables. They are generally lower, especially for teachers (table E).

Table C

Teachers and students in technology
from 1935 to 1960

Year	Student/teacher ratio	Number of students	Number of teachers
1935	3	740	222
1940	13	1,225	109
1945	9	2,135	236
1950	8	2,673	330
1955	9	3,655	388
1956	12	4,178	359
1957	15	5,621	367
1958	11	6,143	565
1959	10	6,377	627
1960	6	6,372	1,024

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(1) MRP/Turkey, OECD, Paris, 1965.

Table D

Numbers of teachers and students in medical sciences between 1935 and 1962

Year	Number of institutions	Student/teacher ratios	Number of students	Teachers
1935	3	9	1,738	202
1940	3	9	2,268	244
1945	3	15	3,635	235
1950	4	10	4,593	454
1955	4	8	4,368	534
1956	4	7	4,057	558
1957	4	6	4,229	681
1958	4	7	4,003	598
1959	4	7	4,898	726
1960	6	6	5,069	913
1961	6	4	4,763	1,115
1962	10	5	5,510	1,193

Table E

Numbers of teachers and students in agriculture between 1935 and 1960

Year	Student/teacher ratio	Number of students	Teachers
1935	1	124	115
1940	1	149	125
1945	7	866	127
1950	8	1,148	138
1955	7	1,550	210
1956	6	1,455	240
1957	6	1,776	280
1958	10	2,829	284
1959	12	3,300	265
1960	10	3,578	375

On the basis of the data at present available, no really satisfactory explanation can be provided. It is, however, quite likely that certain schools or fields were not included for some years in the MRP statistics, particularly veterinary and forestry schools and a number of regional schools. For example, according to the general yearbooks, the number of university-level students in 1958 amounted to 3,286; in addition there were 438 non-university students, i.e. a total of over 3,700 students compared with the 2,800 quoted in the above publication. The following year, however, the gap was considerably narrowed as will be seen from the tables in the annex.

As far as certain advanced teacher-training schools are concerned, the MRP report on Turkey also provided a number of figures for 1945 and 1962. These are given in table F.

According to these figures the ratio of teachers to students would have been 16.8 in 1945 and 10 in 1962. It will be noted that there was a steep fall in the number of teachers between 1960 and 1962, i.e. -28.1 per cent in two years.

In fine arts, the MRP survey showed very low student/teacher ratios. Indeed, according to the figures in table G there were actually more teachers than students in 1945.

For social sciences (university and non-university) and also apparently for law the MRP report on Turkey gave the figures shown in table H.

It will be seen that there is a definite and comparatively steady increase in the teacher/student ratio in this field of study.

Table F

Numbers of teachers and students in education
(higher teacher training colleges) between 1945 and 1962

Year	Institutions	Students	Teachers
1945	2	438	26
1950	2	874	89
1955	2	582	78
1956	3	613	89
1957	3	719	96
1958	3	723	106
1959	3	917	108
1960	4	1,096	192
1961	4	1,407	142
1962	4	1,378	138

Table G

Numbers of teachers and students between 1935 and 1962

Year	Student/teacher ratio	Number of institutions	Number of students	Teachers
1935	6	1	364	57
1940	4	1	400	103
1945		2	116	126
1950	2	2	139	88
1955	1	2	155	113
1956	2	2	185	112
1957	2	2	223	135
1958	2	2	234	135
1959	1	2	203	164
1960	2	2	208	107
1961	3	2	276	104
1962	3	2	306	107

Table H

Numbers of teachers and students in social sciences (and law) between 1935 and 1962

Year	Student/teacher ratios	Number of institutions	Number of students	Number of teachers
1935	26	5	2,493	97
1940	34	5	4,892	144
1945	37	6	7,282	199
1950	44	6	10,105	228
1955	47	8	13,727	293
1956	55	8	20,081	364
1957	57	9	20,643	360
1958	54	9	21,133	394
1959	55	10	22,922	420
1960	50	10	24,418	484
1961	61	10	30,034	495
1962	67	11	31,514	473

2. Annual average growth rates in university staff and student enrolments

These rates which are summarised in table I, confirm, except for a few fields of study, a more rapid growth for students than for teachers.

Table I

Growth rates in numbers of teachers and students in universities between 1950 and 1965

(in percentages)

	Teachers	Students
Pure sciences	7.6	8.9
Architecture	6.6	6.8
Technology	7.0	9.9
Medical sciences	9.5	6.1
Agriculture	6.8	8.8
Humanities	3.7	11.0
Education	6.7	9.6
Fine arts	5.3	9.4
Law	4.9	5.4
Social sciences	6.4	6.3
(1950-57)	10.9	9.9
Others (1958-65)	0.0	0.4
Total	6.4	7.2

B. Non-university higher education

A few figures are also available for non-university higher education. They relate to technology, agriculture, education, the social sciences and the category "other subjects". The great disparity in statistical periods precludes an overall approach. Each field of study will therefore be studied separately.

1. Enrolments and student/teacher ratios

Tables III and IV in annex show the number of teachers and students at certain periods in certain fields of non-university higher education.

The trends in the student/teacher ratios are shown in table J.

Table J

Trends in student/teacher ratios in selected fields of non-university higher education

	Beginning of period	End of period
Technology 1958-1965	6.3	13.4
Agriculture (a) 1954-1963	6.7	11.8
Education 1950-1965	4.0	24.1
Social sciences 1950-1965	28.4	86.8
Other subjects	7.0	16.8

Note: (a) Schools belonging to category B as defined for the MRP, i.e. agricultural, veterinary and forestry schools providing two- or three-year courses for students who have completed the upper secondary school course.

2. Annual growth rates in numbers of teachers and students in non-university higher education

Table K

Annual growth rates of teachers and students in non-university higher education

(in percentages)

	Teachers	Students
Technology 1950-1965	14.0	20.0
Agriculture 1954-1963	0.4	7.0
Humanities 1950-1965	6.6	
Education 1950-1965	4.1	17.4
Social sciences 1950-1965	8.8	17.1
Other subjects 1961-1965	17.2	46.0

Table K very clearly reveals the wide gap between teacher and student growth rates.

III. Composition of the teaching body in higher education

In answer to the "complementary questions", it was indicated that there was a general shortage of teachers in Turkey. In higher education, shortages are particularly noticeable in the pure sciences and technology. The shortage in pure sciences may well be due to the fact that teachers in this field cannot find any work outside their hours of teaching, which limits their possibility of earning additional resources and therefore reduces the number of applicants for posts. Similarly, graduates in technology prefer to work outside the university, i.e. where their remuneration is higher. Moreover, the training of teachers in technology is comparatively more expensive and difficult than in other fields.

1. Proportion of junior level staff

No breakdown was made by level of teachers. It is therefore unfortunately impossible to determine the proportion in which assistants and other teachers at various levels have helped to satisfy the existing demand for teachers.

2. Proportion of women teachers

The "World Survey of Education", (Volume IV) published by UNESCO gives the number of women participating in higher education for certain years. Figures covering the period 1957-1961 are shown in table L.

Table L

Proportion of women teachers in higher education

Type of institution	Year	Number of institutions	Full-time and part-time teachers		Percentage of women teachers
			Total	of whom women	
Universities and institutions awarding equivalent degrees	1961-62	29	2,916	580	20
	1960-61	27	2,807	558	20
	1959-60	26	2,779	514	18
	1958-59	26	2,679	457	17
	1957-58	24	2,070	367	18
Non-university: teacher training	1961-62	13	475	159	33
	1960-61	11	382	114	30
	1959-60	9	404	136	34
	1958-59	8	296	76	26
	1957-58	7	273	76	28
Other	1961-62	22	961	137	14
	1960-61	18	882	99	11
	1959-60	15	728	85	12
	1958-59	15	686	81	12
	1957-58	13	604	66	11

These figures show a slight relative improvement in the proportion of women teachers, confirmed below for longer periods (1935-1962) except in the fields of education and medical sciences (table M).

Table M

Proportion of women teachers in selected fields of higher education
(1935 - 1962)

Year	Social sciences		Technology		Medical sciences		Sciences		Humanities and fine arts		Agriculture		Education	
		%		%		%		%		%		%		%
1935	0		1	1.5	68	33.6	23	14.8	5	8.8	0		15	57.6
1962	51	10.8	110	10.7	246	20.6	207	34.6	13	12.1	46	12.3	44	31.4

Source: MRP/Turkey, OECD, Paris, 1965.

According to the Directorate of the department of social planning the proportion of women teachers in higher education as a whole rose from 16 per cent to 24 per cent between 1944-45 and 1965-66 (1).

3. The role of part-time teachers, and overtime

No very satisfactory information was obtained regarding part-time teachers. The figures shown in the tables in the annex relate to teachers as a whole and no distinction is made between part-time and full-time staff.

On the other hand, considerable overtime is probably worked, although it cannot be quantified. In fact, the replies to the "complementary questions" have shown that, generally speaking, teachers take on a heavier work load in all fields owing to the shortage of staff.

IV. Conclusions

The trends in numbers of teachers and students in universities between 1950 and 1965 show that the number of teachers has undergone a relatively slower increase. The only exceptions are in medical sciences, the social sciences and, between 1950-67, the group of "other subjects". In non-university higher education institutions an even greater decline is noticeable in all fields where it has been possible to review the situation, although the reference periods vary considerably.

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(1) Answers to the "complementary questions".

ANNEX I

Table I

TEACHING STAFF BY FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS (a)

(Absolute figures and indexes)

Field of special. / Year	PURE SCIENCE		ARCHI-TECTURE		TECHNO-LOGY		MEDICAL SCIENCES		AGRI-CULTURE		HUMA-NITIES		EDU-CATION		FINE ARTS		LAW		SOCIAL SCIENCES		OTHER		TOTAL	
	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES
1950/51	186	100	42	100	172	100	449	100	166	100	233	100	92	100	96	100	99	100	96	100	211	100	1,842	100
1951/52	192	103	44	105	186	108	425	95	168	101	238	102	59	64	113	118	113	114	117	122	159	75	1,814	98
1952/53	195	105	45	107	158	92	461	103	175	105	236	101	71	77	109	114	112	113	123	128	177	84	1,862	101
1953/54	204	110	49	117	159	92	499	111	193	116	243	104	79	86	105	109	104	105	138	144	193	91	1,966	107
1954/55	219	118	55	131	182	106	534	119	210	127	262	112	78	85	113	118	109	110	135	141	197	93	2,094	114
1955/56	221	119	57	136	237	138	591	132	260	157	268	115	81	88	114	119	115	116	105	109	280	133	2,332	127
1956/57	229	123	69	164	252	147	742	165	280	169	275	118	82	89	147	153	118	114	123	128	319	151	2,636	143
1957/58	234	126	71	169	278	162	681	152	284	171	270	203	86	93	99	103	122	123	134	140	435	206	2,694	146
1958/59	269	145	82	195	305	177	1,081	241	357	215	320	138	108	117	104	108	131	132	199	207	28	100	2,984	162
1959/60	272	148	77	183	316	184	1,114	248	376	227	330	143	207	225	100	104	132	133	208	217	29	(b) 104	3,161	172
1960/61	271	146	63	150	275	160	1,115	248	415	250	365	157	149	162	104	108	131	132	184	192	34	121	3,106	169
1961/62	349	188	65	155	272	158	1,140	253	404	243	389	167	219	238	142	148	123	124	194	202	29	104	3,326	181
1962/63	456	245	99	236	372	216	1,152	257	399	240	321	138	196	213	212	221	162	164	193	201	29	104	3,591	195
1963/64	432	232	102	243	394	229	1,268	282	419	252	391	168	211	229	153	159	162	164	194	202	29	104	3,755	204
1964/65	496	267	102	243	428	249	1,534	342	424	255	388	167	230	250	152	158	171	173	205	214	28	100	4,158	226
1965/66	559	301	109	260	474	275	1,757	391	444	267	399	171	243	264	207	216	186	188	244	254	28	100	4,650	252

Source : General yearbooks and second phase of the Mediterranean Regional Project for Turkey.

Notes : (a) Establishments taken into account for the study : Universities and institutions of the same type attached to universities :
- Ankara University with ten faculties and four schools for higher education (dental school, school for journalism, special schools of Law and Medicine);
- Istambul University with thirteen faculties and two higher education schools (school for journalism and language school);
- Technical University of Istambul with six faculties and two higher education schools (Maçka technical school and language school);
Middle-east Technical University at Ankara with four faculties;
- The University of Egée at Ezmir with three faculties and one higher language school;
- Atatürk University at Erzurum with three faculties;
- Hacettepe University at Ankara with three faculties and three higher education schools (dental school, school of economics and school of phisiotherapy); this university was established in 1965/66;
- Karadeniz University (Black Sea) at Trabzon.

Institutions under the aegis of the National Ministry of Education and other Ministries:
- The academies of Fine Arts; the State Conservatory of Music; the Engineering Schools of Izmir, Yldis and Elazy; Three Higher Teacher Training Colleges; Commercial Teacher Training Colleges; Technical Teacher Training Colleges; Four Higher Islamic Institutes; Higher Naval School;

Private Institutions: Six Engineering Schools; Two Higher Schools of Chemistry; Two High Schools of Journalism; The Higher School of Pharmacy; The Higher School of Dentistry.

(b) Since 1958/59, the indexation must start again because only Naval Schools are included.

Table II

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS(a)
(Absolute figures and indexes)

Field of spec. / Year	PURE SCIENCE		ARCHI-TECTURE		TECHNOLOGY		MEDICAL SCIENCES		AGRI-CULTURE		HUMANITIES		EDUCATION		FINE ARTS		LAW		SOCIAL SCIENCES		OTHER		TOTAL	
	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES
1950/51	2,036	100	274	100	1,192	100	4,264	100	1,202	100	2,829	100	856	100	306	100	6,540	100	2,331	100	1,584	100	22,414	100
1951/52	1,308	64	335	122	1,259	106	4,504	106	1,261	105	2,970	105	821	96	291	95	5,337	82	2,841	122	1,542	97	22,469	96
1952/53	1,682	83	362	132	1,393	117	4,819	113	1,036	86	2,488	88	751	88	257	84	5,710	87	2,411	103	1,647	104	22,556	96
1953/54	1,201	59	348	127	1,678	141	4,054	95	940	78	2,085	74	677	79	247	81	5,769	88	2,297	99	1,679	106	20,975	90
1954/55	2,369	116	410	150	1,647	138	4,368	102	1,550	129	1,802	64	644	75	368	120	7,159	109	2,608	112	1,611	102	24,536	105
1955/56	3,375	166	435	159	1,816	152	4,057	95	1,442	120	2,462	87	687	80	421	137	13,173	201	3,051	131	1,814	115	32,733	142
1956/57	2,591	127	560	204	2,117	178	4,229	99	1,949	162	3,088	109	774	90	494	161	12,159	186	3,712	159	2,862	181	34,535	147
1957/58	3,280	161	519	189	2,406	202	4,003	94	3,109	254	2,673	94	803	94	549	179	11,007	168	4,351	187	2,065	193	35,765	153
1958/59	3,596	177	621	227	2,511	211	4,909	115	3,286	273	3,683	150	1,008	118	548	179	11,737	179	4,653	200	194 (b)	100 (b)	36,746	157
1959/60	5,925	291	512	187	2,630	221	4,976	117	3,578	298	5,154	182	1,249	146	550	180	12,501	191	4,753	204	209	108	42,022	179
1960/61	5,151	253	570	208	2,619	220	5,288	124	3,584	298	8,387	296	1,745	204	634	207	14,631	224	5,249	225	223	115	48,081	205
1961/62	7,164	352	550	201	2,559	225	5,248	123	3,805	317	10,710	379	1,876	219	726	237	14,636	224	6,967	256	193	99	54,428	232
1962/63	5,854	288	521	190	2,860	240	5,329	125	3,715	309	9,497	336	2,280	266	973	318	15,888	243	5,603	240	191	98	52,711	225
1963/64	4,875	239	553	202	3,466	291	7,702	181	3,779	314	10,744	380	2,533	296	1,028	336	13,717	210	5,773	248	186	96	54,356	232
1964/65	5,868	288	581	212	4,047	340	9,193	216	4,082	340	11,781	416	2,951	345	1,056	345	14,742	225	5,377	231	187	96	59,865	256
1965/66	7,280	358	734	268	4,882	410	10,381	243	4,235	352	13,550	479	3,393	396	1,172	383	14,397	220	5,838	250	199	103	66,061	282
1966/67																								

Source : See Table I.

Notes : (a) Same establishments as on Table I.
(b) Since 1958/59, "Other" includes Naval Schools. The indexation has been recalculated from that year.

Table III - Absolute figures and indexes

Teaching staff by field of specialisation in non-university institutions (a)

Field of specialisation / Year	Technology		Agriculture		Humanities		Education		Social sciences		Other	
	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes
1950/51	96	100			58	100	129	100	58	100		
1951/52	77	80			57	98	121	94	57	99		
1952/53	81	84			59	102	132	102	59	102		
1953/54	87	91			55	95	142	110	55	95		
1954/55	89	93	71	100	59	102	161	125	59	102		
1955/56	100	104	69	97	76	131	150	116	110	190		
1956/57	202	210	64	90	91	157	175	136	105	181		
1957/58	307	320	60	85	98	169	187	145	118	203		
1958/59	333	347	66	93	130	224	210	163	130	241		
1959/60	370	385	87	123	158	272	197	153	158	272		
1960/61	479	499	100	140	176	303	233	181	176	303		
1961/62	451	470	100	140	156	269	284	220	156	269	9	100
1962/63	471	491	74	104	135	233	144	112	138	238	13	144
1963/64	271	282	74	104	138	238	191	148	139	240	12	133
1964/65	312	325			141	243	220	171	161	278	16	178
1965/66	689	718			151	260	236	183	205	353	17	189

Source: Same source as on table I.

Note: (a) Establishments taken into account for the study: colleges of commerce and economics under the authority of the Ministries; private colleges of commerce and economics; higher technical schools; ten pedagogical institutes for the training of teachers for the lower secondary level.

Table IV - Absolute figures & Indexes

Student enrolments in non-university institutions (a)

Field of specialisation / Year	Technology		Agriculture		Education		Social sciences		Other	
	Total	Indexes	Total (b)	Indexes	Total	Indexes	Total	Indexes	Total	Indexes
1950/51	546	100			514	100	1,649	100		
1951/52	548	100			404	79	1,909	116		
1952/53	758	139			534	104	1,939	118		
1953/54	892	163			565	110	2,380	144		
1954/55	880	161	474	100	771	150	3,359	204		
1955/56	1,047	192	464	98	931	181	3,841	233		
1956/57	1,994	365	422	89	1,224	238	4,721	286		
1957/58	2,143	392	317	77	1,219	237	5,724	347		
1958/59	2,101	385	438	92	1,626	316	6,084	369		
1959/60	2,293	420	601	127	1,775	345	7,948	482		
1960/61	3,459	634	667	141	2,488	484	11,214	680		
1961/62	3,700	678	738	156	2,504	487	9,858	598	63	100
1962/63	4,139	758	651	137	3,107	604	12,627	766	95	151
1963/64	4,446	814	874	184	4,106	799	15,143	918	142	225
1964/65	5,341	978			4,769	928	15,365	932	211	335
1965/66	8,873	1,625			5,681	1,105	17,784	1,078	285	452

Source: See table I.

Notes: (a) Same establishments as on table III.
(b) Pupils of "category B" (see MRP/Turkey).

YUGOSLAVIA

I. Criteria for the recruitment and promotion of teaching staff

Professors are appointed to chairs by the administrative board of the faculty concerned on the strength of their qualifications and publications. Their appointment has to be approved by the faculty council and candidates for the posts of professor or associate professor are required to hold a doctorate. "Docents" (assistant professors) may be appointed on the basis of the degree of "magister" or "specialist" (degrees awarded on completion of post-graduate university studies) though certain faculties require them to hold a doctorate. Lecturers have the same rank and salary as assistant professors and associate professors, but the qualifications required need not be more than, for example, a final university degree, practical experience and teaching ability. "Assistants" (assistant lecturers) working under the supervision of professors are also recruited from among the best students at final degree level. Assistant professors and senior lecturers are re-elected every five years and lecturers and assistant lecturers every three years. Part-time teachers must have the same qualifications as their full-time counterparts. The publication of personal research is an important factor in promotion. Only full professors are appointed for life.

Table A shows the structure of the full-time teaching body in university-type education (faculties and colleges) for 1961-62.

Table A

Full-time teaching body by level in university-type education 1961-62

(in percentages)

	Total	Faculties	Colleges
Total professors	100	100	100
Full professors	26	25	11
Associate professors	27	28	21
Senior lecturers	3	2	16
Assistant professors	36	38	19
Lecturers	8	7	21
Other			
Total auxiliary staff	100	100	100
Assistants	89	90	83
Others	11	10	17

Source: Innovation in Higher Education - Reforms in Yugoslavia, OECD, Paris, 1970.

It may be noted that the largest category represented among the teaching body is not the same in the colleges and faculties.

II. Trends in numbers of teachers and students in higher education

A. University education

1. Student/teacher ratios and numbers

The numbers of students and teachers are available for the period 1950-66. Figures for the period 1938-39 are also shown in tables I and II in annex where they were included in answers to the "complementary questions". Table B shows that the number of students per teacher decreased between 1950 and 1966 leaving great discrepancies according to discipline and level. An overall improvement can be noted in the student/teacher ratio in senior and middle levels.

2. Average annual growth rates

It seemed worth while to show the rates for the period 1950-66 and, where possible, for 1938 to 1966 in table C. An examination of them confirms from another angle what was said in 1. above, i.e. a slower growth by proportion of students to teachers between 1950 and 1966 than between 1938 and 1966.

Table B

Student/teacher ratios in university education by level of staff and field of study

Field of study		Students SL + ML	Students JL	Students SL + ML + JL
Pure science	1950	35.4	32.2	16.9
	1966	23.0	23.4	11.6
Architecture and technology	1950	18.4	18.6	9.2
	1966	18.2	16.2	8.6
Medical sciences	1950	30.0	10.1	7.6
	1966	16.4	9.4	6.0
Agriculture	1950	20.1	14.7	8.5
	1966	10.9	12.8	5.9
Humanities	1950	30.3	58.0	19.9
	1966	22.5	22.5	12.6
Education	1950	7.6	10.3	4.4
	1966	14.8	29.5	9.8
Fine arts	1950	4.1	32.7	3.7
	1966	5.1	20.7	4.0
Law	1950	35.5	61.2	22.5
	1966	51.9	95.6	33.7
Social sciences	1950	47.7	102.8	32.6
	1966	28.3	59.0	19.1
Others	1950			
	1966			
Average ratios	1950	23.5	20.9	11.0
	1966	19.9	20.8	10.2

Source: Tables I and II in annex.

Table C

Average annual numerical growth rates for teachers
and students between 1950 and 1966 and between
1938 and 1966

(in percentages)

Field of study	Period	Teachers			Students
		SL + ML	JL	Total	
Pure science	1950/66	7.4	6.6	7.0	4.5
Architecture and technology	1938/66	9.8	10.2	10.0	9.3
	1950/66	6.3	7.2	6.7	6.2
Medical sciences	1938/66	9.9	9.2	9.4	7.1
	1950/66	6.1	2.6	3.6	2.1
Agriculture	1938/66	7.3	7.6	7.4	5.4
	1950/66	4.9	1.9	3.3	1.0
Humanities	1938/66	6.0	5.7	5.9	6.4
	1950/66	6.2	9.0	7.3	4.3
Education	1950/66	12.9	10.3	11.9	17.7
Fine arts	1938/66	8.7	8.6	8.7	8.2
	1950/66	2.4	6.8	3.1	3.8
Law	1938/66	5.8	8.0	6.4	4.4
	1950/66	8.7	8.3	8.6	11.3
Social sciences	1938/66	9.1	8.4	8.9	10.2
	1950/66	8.0	8.2	8.1	4.6
Total	1938/66	8.6	9.0	8.8	7.3
	1950/66	6.2	5.1	5.6	5.1

3. Structural changes in teaching staff

These structural changes are shown in table D. The teaching body is divided into senior and middle level teachers on the one hand and junior level teachers on the other. Contrary to what has happened in other countries the weight of junior level teachers diminished slightly between 1950 and 1966.

B. Non-university education

1. Student/teacher ratios and numbers

The numbers of teachers and students in non-university institutes of higher education are shown in tables III and IV in annex. From these tables the student/teacher ratios in these institutions can be calculated (see table E).

Table D

Structural changes in the composition of the
teaching body in university education

(as percentage of total teaching staff)

Field of study	Level	1938-39	1950-51	1966-67
Pure science	SL + ML		47.7	50.5
	JL		52.3	49.5
Technology	SL + ML	49.6	50.3	47.1
	JL	50.4	49.7	52.9
Medical sciences	SL + ML	32.6	25.2	36.4
	JL	67.4	74.8	63.6
Agriculture	SL + ML	55.9	42.4	53.8
	JL	44.1	57.6	46.2
Humanities	SL + ML	53.9	65.7	55.9
	JL	46.1	34.3	44.1
Education	SL + ML		57.9	66.7
	JL		42.1	33.3
Fine arts	SL + ML	80.0	88.8	80.3
	JL	20.0	11.2	19.7
Law	SL + ML	76.5	63.3	64.8
	JL	23.5	36.7	35.2
Social sciences	SL + ML	63.4	68.3	67.5
	JL	36.6	31.7	32.5
Total	SL + ML	53.5	47.1	51.2
	JL	46.5	52.9	48.8

Source: See table I in annex.

A comparison between tables B and E shows that student/teacher ratios (insofar as they are comparable) generally follow contrary trends in university education and non-university higher education. In universities or institutions of equivalent level student/teacher ratios have fallen whether teachers are considered as a whole or by levels. But in other institutions of higher education these ratios have steadily increased.

Comparison of trends in these ratios by field of study as between universities and non-university institutions of higher education is difficult, as the periods reviewed are not identical except in medical sciences and social sciences (where the trend is definitely divergent) and education (where it is partially convergent).

2. Annual growth rates of numbers of teachers and students in non-university institutions of higher education

These trends shown in the following table (F) confirm what was seen above for the total teaching body, but the trends varied according to the field of study under consideration.

Table E

Student/teacher ratios in non-university institutions of higher education

Field of study	Year	Students/SL + ML	Students/JL	Students/ All teachers
Technology	1958-59	24.4	70.4	18.1
	1966-67	14.9	46.1	11.3
Medical sciences	1950-51	4.9	26.7	4.2
	1966-67	12.2	23.2	8.0
Agriculture	1960-61	16.5	248.6	15.5
	1966-67	10.0	63.8	8.7
Education	1938-39	2.8	(a)	2.8
	1950-51	20.1	366.3	19.0
	1966-67	25.0	134.1	21.1
Social sciences	1950-51	4.2	86.0	4.0
	1966-67	35.7	323.9	32.1
Total	1950-51	14.7	19.1	13.7
	1966-67	23.5	106.2	19.2

Sources: Tables III and IV in annex.

Note: (a) There were no junior level teachers in 1938 in education.

Table F

Average annual growth rate in numbers of teachers and students in non-university institutions of higher education

(in percentages)

Field of study	Period	Teachers			Students
		SL + ML	JL	Total	
Technology	1958-66	56.0	54.0	55.0	47.0
Medical sciences	1950-66	5.9	13.1	7.6	12.1
Agriculture	1960-66	15.5	33.0	17.0	6.3
Education	1938-66	9.4	-	10.0	8.9
	1950-66	10.2	19.0	11.1	11.8
Social sciences	1950-66	17.8	24.0	18.2	16.5
Total	1950-66	14.6	23.0	15.5	18.0

3. Structural changes in the teaching body

These changes are shown for the periods for which figures are available in table G. It can be inferred that junior level staff has increased far more than proportionally during the period studied than it has in universities (table D).

Table G

Structural changes in the teaching body in non-university institutions of higher education

Field of study	Total teaching body = 100%			
	Level	1938-39	1950-51	1966-67
Technology	SL + ML	100		75.5
	JL			24.5
Medical sciences	SL + ML		84.4	65.5
	JL		15.6	34.5
Agriculture	SL + ML			86.4
	JL			13.6
Education	SL + ML		94.8	84.3
	JL		5.2	15.7
Social sciences	SL + ML		95.3	90.0
	JL		4.7	10.0
Total	SL + ML		92.8	81.9
	JL		7.2	18.1

Source: See table III in annex.

III. Complementary data for the period 1957/58 to 1966/67

A recent study by OECD traces the trend in numbers of teachers and students in the different institutions of higher education for the decade 1957/58 - 1966/67 (1).

Table H shows the trend in student/teacher ratios for each of the three main types of institutions it has been possible to consider. (It includes all students and teachers whether full-time or part-time).

In the faculties, after increasing between 1957 and 1960, the ratio fell until 1964, dropping from 36 to 20 while the student/auxiliary staff ratio fell from 22 to 19. Between 1965 and 1967 these ratios began to increase again.

In the case of colleges two conflicting trends can be noted: the student/teacher ratio fell quite noticeably between 1958 and 1966 while the student/auxiliary staff ratio continued to increase.

Finally, in two-year post-secondary schools, the increase has generally been constant.

In higher education as a whole, after a few swings, the student/teacher ratio has very slightly improved while the ratio for student/auxiliary staff (assistants for the most part) has steadily increased. These differences are confirmed by an analysis of average annual growth rates.

Table I shows that in general the average annual growth rates for teachers is greater than that for students. This is not, however, the case for two-year post-secondary schools, where the increase in students has been nearly twice that of teachers. The particularly rapid increase in the number of part-time students, and the rapid growth of colleges is also noteworthy. On the other hand the increase in auxiliary staff has been relatively slow, particularly in colleges.

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(1) Innovation in Higher Education, OECD, Paris, 1970. Table V in annex shows in absolute figures and in index the most fundamental numerical data.

Table H

Student/teacher ratios in institutions of higher education 1957/58 - 1966/67

	1957-58	1958-59	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67
Total										
student/teacher	22	25	25	27	24	21	19	19	20	21
student/auxiliary staff	24	24	24	27	27	26	24	25	27	30
Faculties										
student/teacher	29	35	33	36	30	25	21	20	21	22
student/auxiliary staff	21	22	21	22	22	21	18	18	19	21
Colleges										
student/teacher	20	27	14	13	13	13	14	14	13	14
student/auxiliary staff	10	8	16	18	22	16	22	20	21	23
2 year post-secondary colleges										
student/teacher	11	12	15	18	17	17	19	21	22	23
student/auxiliary staff	69	58	65	88	83	90	66	83	91	106

Source: Innovation in Higher Education - Reforms in Yugoslavia, OECD, Paris, 1970.

Table I

Average annual growth rates for students and teachers in higher education from 1957 to 1966

(in percentages)

	Faculties	Colleges	Post-secondary colleges	All institutions
Total number of students	5.4	41.0	22.5	10.0
Full-time students	4.5	33.0	17.0	7.3
Part-time students	10.1	83.0	30.7	20.7
Teachers	9.2	46.5	12.7	10.6
Auxiliaries	5.9	28.0	16.8	7.1

Finally, by way of complementary information, we give not the development of the structure of the teaching body but recent data showing the distribution of full-time staff at the university of Zagreb by field of study. In 1966 they represented only 50.2 per cent of the full-time staff at the university, of which 26.5 per cent were assistants and 23.7 per cent were teachers in other categories. The distribution of the latter (i.e. not including assistants) is shown in table J.

Table J

Breakdown of university teachers by category, Zagreb, 1966

Field of study	Lecturers	Senior lecturers	Assistant professors	Associate professors	Full professors
Social sciences	32.3	9.5	20.9	19.6	17.7
Natural sciences and engineering	13.8	9.1	25.7	23.9	25.7
Medical sciences	2.4	0.9	32.1	25.9	38.7
Total	18.1	7.5	26.1	22.8	25.5

Source: See table H.

IV. Composition of the teaching body in higher education

1. Part played by women teachers

Table K below shows the percentage of women teachers employed in higher education in the different types of schools between 1957 and 1961. These percentages seem to show a slight growth in the number of women teachers in university education and training colleges and a decline in non-university technical colleges during this short period.

Table K

Part played by women in the different types of higher education institutions

(in percentages)

	Total number of teachers	Women staff	
		Absolute figures	%
University education			
91 university faculties, 1961-62	8,767	1,781	20.3
11 academies of fine arts, 1961-62	409	87	21.3
11 other institutions	432	79	18.3
Total 1961-62 (113 institutions)	9,608	1,947	20.3
Total 1957-58 (69 institutions)	5,891	1,099	18.7
Non-university education			
36 teacher training colleges 1961	1,009	269	26.7
18 teacher training colleges 1957	626	149	23.8
95 higher technical schools 1961	1,907	280	14.7
26 higher technical schools 1957	756	152	20.1

Source: World Survey of Education, Volume IV, UNESCO.

2. The part played by part-time teachers

Calculations made from table V in annex for table L, below, show that, in "physical" terms only the overall strength of staff changed very little during the decade 1957-66. Nevertheless, within the different types of institutions, and according to the level of staff, contrary movements can be seen, of which the most significant are the following: a great reduction in part-time "auxiliary" staff (especially assistants) in the two-year post-secondary schools (revealing thereby an improvement in their staff); a reduction in this same category in colleges and faculties; a growth in the number of part-time teachers in colleges.

Table L

Percentage of part-time teachers in higher education for the beginning and end of the decade 1957-1966

(in "physical" terms)

	Faculties	Colleges	Post-secondary schools	Total
Teachers 1957	45 (29)[(a)]	40	57	39
1966	28	45	55	38
Auxiliary staff 1957	26	25 (53)[(a)]	89	29
1966	23	49	57	28

Source: Table V in annex.

Note: (a) The percentage between brackets for 1958 appears better from the statistical point of view than that for 1957.

3. Part played by lecturers

During a period of teacher shortage in 1960, the posts of lecturer and senior lecturer were created to facilitate the application of the Higher Education Reform Act. The criteria for enrolment vary considerably from one faculty or college to another. It seems to have been accepted that in future no more teachers will be recruited in this category and that, taking account of their works and their academic attainment, higher posts will be offered to those still in office pursuant to this Act.

V. Conclusions

To sum up, it may be said that in university-type institutions the student/teacher ratio seems to have improved between 1938 and 1966 and between 1960 and 1966. This fact is clearly shown in both overall and in individual fields of study, except for the humanities and the social sciences between 1938 and 1950, and in teacher training colleges, the fine arts and law between 1950 and 1966.

In non-university higher education trends vary widely depending on the field of study and the period considered. Student/teacher ratios seem to have improved after the '50's in technology (1958/66), in agriculture (1960/66) and in the social sciences.

In education and medical sciences the number of teachers increased more slowly than the number of students.

The proportion of women teachers is relatively high. Except in higher technical institutions, they increased between 1957 and 1961, to reach one-fifth of the teaching body in university education and one-quarter in teacher training colleges in 1961.

The proportion (in "physical" terms) of part-time teachers in the teaching body in higher education hardly changed during the decade 1957-66. These teachers seem to have played a large part among "auxiliary" teachers with the first period of expansion of two-year post-secondary schools.

ANNEX I

ANNEXE I

SL = Senior Level (a) Statut Supérieur = SS (a)
ML = Middle Level (a) Statut Moyen = SM (a)
JL = Junior Level (a) Statut Inférieur = SI (a)

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN UNIVERSITY INSTITUTIONS
(FULL TIME AND PART TIME)

PERSONNEL ENSEIGNANT PAR STATUT ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE
(PLEIN TEMPS ET TEMPS PARTIEL)

COUNTRY : YUGOSLAVIA
PAYS : YOUGOSLAVIE
TABLE : I - Absolute figures & Indexes
TABLEAU : I - Chiffres absolus & Indices

Field of specialization / Branches — Year / Année	PURE SCIENCE SCIENCES PURES				TECHNOLOGY TECHNOLOGIE & ARCHITECTURE				MEDICAL SCIENCE SCIENCES MEDICALES				AGRICULTURE				HUMANITIES LETTRES			
	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T
1938/39		-	-	-	128	130	258		61	126	187		104	82	186		139	119	258	
1950/51	134	147	281	100	661	653	1 314	100	335	997	1 332	100	349	475	824	100	272	142	414	100
1951/52	172	135	307	109	657	463	1 120	85	437	704	1 091	82	344	276	620	75	292	195	487	118
1952/53	186	99	285	101	573	480	1 053	80	367	582	949	71	338	284	622	75	276	213	489	118
1953/54	197	128	325	116	623	621	1 244	95	359	686	1 045	78	365	310	675	82	311	246	557	135
1954/55	170	175	345	123	626	728	1 354	103	364	814	1 178	88	339	383	722	88	307	260	567	137
1955/56	186	245	431	153	632	830	1 462	111	366	773	1 139	86	377	362	739	90	270	324	594	143
1956/57	185	305	490	174	710	883	1 593	121	404	956	1 360	102	389	379	768	93	251	333	584	141
1957/58	205	226	431	153	676	901	1 579	120	441	1 049	1 490	112	417	427	844	102	318	448	766	185
1958/59	207	248	455	162	660	1 090	1 750	133	438	1 187	1 625	122	423	485	908	110	286	430	716	173
1959/60	220	275	495	176	797	1 245	2 042	155	482	1 176	1 658	124	484	528	1 012	123	316	484	800	193
1960/61	295	361	656	233	887	1 527	2 414	184	562	1 390	1 952	147	536	563	1 099	133	352	626	978	236
1961/62	354	419	773	275	1 181	1 801	2 982	227	659	1 469	2 128	160	663	654	1 317	160	435	490	925	223
1962/63	430	431	861	306	1 448	1 869	3 317	252	749	1 381	2 130	160	716	655	1 371	166	504	569	1 073	259
1963/64	442	453	895	319	1 639	2 134	3 773	287	821	1 423	2 244	168	697	666	1 363	165	583	543	1 126	272
1964/65	481	442	923	328	1 711	2 173	3 884	296	845	1 498	2 343	176	752	661	1 413	171	635	552	1 187	287
1965/66	427	444	841	299	1 761	2 091	3 852	293	848	1 529	2 377	178	763	660	1 423	172	671	555	1 226	296
1966/67	419	411	830	295	1 755	1 974	3 729	283	858	1 496	2 354	176	749	642	1 391	168	715	564	1 279	308

Field of specialization / Branches — Year / Année	EDUCATION				FINE ARTS BEAUX ARTS				LAW DROIT				SOCIAL SCIENCES SCIENCES SOCIALES				TOTAL			
	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T	SL + ML SS + SM	JL SI	T	IND T
1938/39	-	-			40	10	50		78	24	102		45	26	71		595	517	1 112	
1950/51	33	24	57	100	277	35	312	100	100	58	158	100	153	71	224	100	2 314	2 602	4 916	100
1951/52	30	22	52	91	323	16	339	109	114	70	184	116	119	60	179	80	2 488	1 941	4 429	90
1952/53	14	23	37	65	293	40	333	107	136	55	191	121	97	41	138	62	2 280	1 817	4 097	83
1953/54	32	14	46	81	308	40	348	112	145	59	204	129	111	61	172	77	2 451	2 155	4 606	94
1954/55	21	23	44	77	280	48	328	105	145	66	211	134	113	55	168	75	2 365	2 552	4 917	100
1955/56	17	29	46	81	251	83	334	107	162	87	249	158	79	78	157	70	2 340	2 811	5 151	105
1956/57	16	16	32	56	269	76	345	111	158	85	243	154	94	83	177	79	2 476	3 116	5 592	114
1957/58	15	32	47	82	288	68	356	114	134	57	191	121	145	105	250	112	2 641	3 313	5 954	121
1958/59	9	35	44	77	311	61	372	119	133	60	193	122	137	110	247	110	2 604	3 706	6 310	128
1959/60	20	24	44	77	261	103	364	117	153	80	233	147	138	122	260	116	2 871	4 037	6 908	141
1960/61	42	38	80	140	304	89	393	126	173	119	292	185	195	155	350	156	3 346	4 868	8 214	167
1961/62	101	41	142	249	314	95	409	131	219	128	347	220	327	209	536	239	4 253	5 306	9 559	194
1962/63	110	33	143	251	335	112	447	143	275	178	453	287	403	294	697	311	4 970	5 522	10 492	213
1963/64	186	69	255	447	364	145	509	163	321	178	499	316	477	278	755	337	5 530	5 889	11 419	232
1964/65	219	96	315	553	390	114	504	162	352	181	533	337	529	296	825	368	5 914	6 013	11 927	243
1965/66	230	121	351	615	401	99	500	160	356	169	525	332	536	245	781	348	5 993	5 883	11 876	241
1966/67	230	115	345	605	408	100	508	162	381	207	588	372	522	251	773	345	6 037	5 760	11 797	239

Source : "Uporedni Pregled Nastavnika, 1938/39 to 1964/65" (Comparative view of the teaching staff, 1938/39 to 1964/65)- Answers to"Complementary questions".

Note : (a) **Teaching staff** : established professors and other professors, senior lecturers (SL + ML).
Auxiliary staff: lecturers, scientific aids, established assistants and other assistants (JL).

Source : "Uporedni Pregled Nastivnika, 1938/39 to 1964/65" (Examen comparatif des enseignants, 1938/39 à 1964/65) - Réponses aux"questions complémentaires".

Note : (a) **Personnel enseignant** : Professeurs titulaires et non titulaires, chargés de cours et maîtres de conférence = SS + SM.
Collaborateurs : Lecteurs, collaborateurs scientifiques, assistants titulaires et non titulaires = SI.

Table II

STUDENT ENROLMENTS IN UNIVERSITY INSTITUTIONS
(Absolute figures and indexes)

Field of Special. / Year	PURE SCIENCE		TECHNOLOGY & ARCHITECTURE		MEDICAL SCIENCES		AGRICULTURE		HUMANITIES		EDUCATION		FINE ARTS		LAW		SOCIAL SCIENCES		TOTAL	
	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES	TOTAL	IN-DEXES
1938/39			2,671		2,096		1,874		2,866				228		5,998		986		16,719	
1950/51	4,744	100	12,166	100	10,075	100	7,016	100	8,234	100	249	100	1,144	100	3,551	100	7,303	100	54,482	100
1951/52	3,487	88	10,343	85	8,806	87	5,382	77	8,438	94	286	115	1,179	103	6,330	153	4,565	62	48,816	90
1952/53	4,772	101	8,748	72	7,726	77	5,163	74	8,748	106	245	98	1,219	107	7,340	207	4,972	68	48,933	90
1953/54	5,169	109	9,764	80	8,829	88	4,360	62	11,095	135	217	87	1,217	106	6,082	171	6,049	83	52,782	97
1954/55	5,506	116	12,941	106	9,484	94	4,765	68	13,540	164	259	104	1,233	108	7,563	213	7,584	104	62,875	115
1955/56	5,375	113	13,738	113	9,401	93	4,345	62	13,975	170	233	94	1,253	110	7,008	197	6,717	92	62,045	114
1956/57	4,266	90	14,467	119	8,012	80	4,370	62	12,405	151	292	117	1,320	115	9,054	255	7,672	105	61,858	114
1957/58	4,139	87	16,460	135	8,946	89	6,074	87	13,420	163	305	122	1,394	122	10,837	305	9,211	126	70,784	130
1958/59	4,398	93	18,001	148	10,495	104	7,089	101	14,502	176	316	128	1,377	120	12,690	357	11,875	162	80,745	148
1959/60	4,742	98	19,436	160	10,949	110	7,955	113	14,098	171	459	184	1,412	123	14,540	409	11,909	163	85,500	157
1960/61	6,206	105	26,489	228	12,489	125	11,219	160	15,258	183	552	222	1,418	124	16,740	447	18,010	247	108,381	199
1961/62	5,259	114	29,869	246	13,690	136	10,184	145	15,860	191	819	329	1,646	144	16,085	434	23,700	325	117,112	215
1962/63	6,081	142	29,704	244	13,992	139	9,260	132	14,101	171	1,329	534	1,817	159	15,315	404	20,048	275	112,310	206
1963/64	7,681	162	29,685	233	13,501	134	8,399	120	13,032	158	2,778	1,116	1,981	173	14,093	357	17,453	239	107,214	197
1964/65	7,955	168	28,457	234	13,365	133	7,633	109	12,407	151	3,193	1,282	1,980	173	14,299	360	18,137	248	107,426	197
1965/66	9,171	193	31,957	263	13,923	138	7,843	112	13,705	166	3,210	1,289	2,014	176	16,026	451	18,424	252	116,273	213
1966/67	9,627	203	32,045	263	14,088	140	8,193	117	16,070	195	3,397	1,364	2,075	181	19,500	558	14,815	203	120,110	220

Source : "Uporedni Pregled Upisanih Studenata, 1938/39 to 1964/65" (Comparative view of student enrolments, 1938/39 to 1964/65) and answers to "complementary questions".

Table III

TEACHING STAFF BY STATUS AND FIELD OF SPECIALISATION IN NON-UNIVERSITY INSTITUTIONS
(FULL-TIME AND PART-TIME)

(Absolute Figures and indexes)

SL = Senior Level
ML = Middle Level
JL = Junior Level

Field of spec. / Year	TECHNOLOGY				MEDICAL SCIENCES				AGRICULTURE				EDUCATION				SOCIAL SCIENCES				TOTAL			
	SL+ ML	JL	T	IND T	SL+ ML	JL	T	IND T	SL+ ML	JL	T	IND T	SL+ ML	JL	T	IND T	SL+ ML	JL	T	IND T	SL+ ML	JL	T	IND T
1938/39													92	-	92									
1950/51					65	12	77	100					237	13	250	100	61	3	64	100	363	28	391	100
1951/52					31	-	31	40					356	17	373	149	53	-	53	83	440	17	457	117
1952/53					7	-	7	9					403	22	425	170	34	-	34	53	444	22	466	119
1953/54					38	7	45	58					433	19	452	181	38	-	38	59	509	26	535	137
1954/55					57	18	75	97					495	20	515	206	46	-	46	72	598	38	636	163
1955/56					67	18	85	110					554	14	568	227	46	-	46	72	667	35	702	180
1956/57					89	10	99	129					548	26	574	230	128	25	153	239	765	61	826	211
1957/58					204	70	274	356					603	23	626	250	287	83	370	578	1,094	176	1,270	325
1958/59	26	9	35	100	231	72	303	394					632	47	679	272	438	151	589	920	1,327	279	1,606	411
1959/60	68	5	73	209	85	109	194	252					629	50	679	272	507	135	640	1,000	1,289	297	1,586	406
1960/61	210	79	289	826	109	53	162	210	75	5	80	100	707	36	743	297	676	191	867	1,355	1,277	364	2,141	548
1961/62	437	186	623	1,780	92	47	139	181	175	22	197	246	894	115	1,009	404	823	125	948	1481	2,421	495	2,916	746
1962/63	592	214	806	2,303	118	41	159	206	169	45	214	268	979	125	1,104	442	908	107	1,015	1,586	2,766	532	3,298	843
1963/64	647	324	971	2,774	118	91	209	271	167	41	208	260	957	201	1,158	463	889	148	1,037	1,620	2,778	805	3,583	916
1964/65	836	308	1,144	3,269	129	82	211	274	188	32	220	275	1,095	175	1,270	508	817	160	977	1,526	3,065	757	3,822	977
1965/66	884	306	1,190	3,400	163	89	252	327	188	30	218	272	1,104	217	1,321	528	801	102	903	1,411	3,140	744	3,884	993
1966/67	901	292	1,193	3,409	163	86	249	323	178	28	206	257	1,131	211	1,342	537	836	92	928	1,450	3,209	709	3,918	1,002

Source : "Statisticki godisujaci Jugoslavije"
Answers to "complementary questions".

Table IV - Absolute figures & Indexes

Student enrolments in non-university institutions

Field of specialisation / Year	Technology		Medical science		Agriculture		Education		Social sciences		Total	
	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes	Total	Indexes
1938/39							259				259	
1950/51			320	100			4,762	100	258	100	5,340	100
1951/52			132	41			5,638	118	177	69	5,947	111
1952/53			17	5			5,303	111	34	13	5,435	102
1953/54			31	10			4,512	96	58	20	4,751	89
1954/55			179	68			6,711	141	106	41	7,122	133
1955/56			228	88			7,124	150	147	57	7,605	142
1956/57			461	144			8,220	173	1,178	457	9,994	187
1957/58			639	200			8,054	169	3,166	1,227	12,098	227
1958/59	634	100	901	282			8,895	187	5,715	2,215	16,145	302
1959/60	1,118	176	619	193			9,725	204	7,824	3,033	19,286	361
1960/61	4,852	765	668	209	1,243	100	9,894	208	15,536	6,022	32,193	603
1961/62	6,801	1,072	755	236	1,896	153	13,164	276	18,282	7,086	40,898	766
1962/63	7,292	1,150	1,041	325	1,851	149	17,007	357	20,591	7,981	47,782	895
1963/64	8,384	1,322	1,047	327	1,961	158	19,677	413	22,312	8,648	53,381	1,000
1964/65	11,291	1,780	1,459	456	1,635	132	20,181	424	28,507	11,049	63,073	1,181
1965/66	12,578	1,983	1,990	622	1,487	120	24,514	515	28,081	10,884	68,650	1,286
1966/67	13,464	2,123	1,993	623	1,786	144	28,297	594	29,804	11,552	75,344	1,411

Source: See table II.

Table V

EVOLUTION OF STUDENT ENROLMENTS AND NUMBER OF TEACHERS FROM 1957/58 TO 1966/67 IN THE DIFFERENT TYPES OF INSTITUTIONS OF HIGHER EDUCATION

(Absolute figures and indexes)

	Number of institutions		Students						Teaching staff							
									Teachers				Auxiliary Staff			
			Total		Full-time		Part-time		Total		of which Full-time		Total		of which Full-time	
	Abs. fig.	Indexes	Abs. fig.	Indexes	Abs. fig.	Indexes	Abs. fig.	Indexes	Abs. fig.	Indexes	Abs. fig.	Indexes	Abs. fig.	Indexes	Abs. fig.	% of total
FACULTIES																
1957/58	54	100	69,087	100	60,465	100	8,622	100	2,338	100	1,292	55	3,213	100	2,391	74
1958/59	55	101.8	78,904	114	66,905	110	11,999	139	2,276	97	1,627	71	3,585	111	2,611	73
1959/60	59	109.2	82,927	120	69,489	114	13,438	156	2,529	108	1,790	71	3,862	120	2,866	74
1960/61	78	144.8	104,875	152	76,462	126	28,413	320	2,886	123	2,091	72	4,665	145	3,219	69
1961/62	88	162.9	112,005	162	81,321	134	30,684	359	3,666	156	2,620	71	5,052	157	3,507	69
1962/63	94	174.1	106,225	153	80,764	133	25,461	295	4,312	184	2,981	69	5,150	160	3,753	73
1963/64	92	170.3	99,056	143	76,292	126	22,764	264	4,725	202	3,196	68	5,460	170	3,887	71
1964/65	93	172.2	98,631	143	75,653	125	22,978	265	5,036	215	3,385	67	5,553	172	3,953	71
1965/66	96	177.7	107,329	155	84,891	144	22,438	260	5,077	217	3,552	70	5,462	170	4,092	75
1966/67	97	179.6	111,232	161	90,675	148	20,557	238	5,161	220	3,731	72	5,367	167	4,121	77
COLLEGES																
1957/58	1	100	303	100	291	100	12	100	15	100	9	60	32	100	24	75
1958/59	2	200	464	153	454	156	10	83	17	113	8	47	60	188	28	47
1959/60	7	700	1,161	384	1,079	370	82	683	81	540	30	37	72	225	31	43
1960/61	10	1,000	2,088	689	1,710	587	378	3,150	156	1,040	74	47	114	356	55	48
1961/62	14	1,400	3,461	1,142	2,456	844	1,005	8,375	273	1,820	124	45	159	497	86	54
1962/63	16	1,600	4,268	1,409	2,546	875	1,722	14,833	323	2,153	153	47	260	812	92	35
1963/64	17	1,700	6,177	2,038	3,585	1,233	2,592	21,600	441	2,940	207	47	284	887	130	46
1964/65	17	1,700	6,815	2,249	3,552	1,220	3,263	27,200	488	3,253	230	47	346	1,081	158	46
1965/66	16	1,600	6,930	2,287	3,460	1,182	3,470	28,116	515	3,433	263	51	322	1,006	174	54
1966/67	16	1,600	6,848	2,260	4,014	1,378	2,834	23,626	474	3,160	259	55	295	922	149	51
POST-SECONDARY SCHOOLS	(TWO YEARS)															
1957/58	44	100	12,098	100	8,764	100	3,334	100	1,094	100	467	43	176	100	19	11
1958/59	54	122	16,145	133	10,199	116	5,945	178	1,327	121	526	40	279	158	34	12
1959/60	66	150	19,286	159	12,032	137	7,254	217	1,289	118	585	45	297	168	49	16
1960/61	106	240	32,193	265	15,179	174	17,014	510	1,777	162	734	41	264	206	61	23
1961/62	131	298	40,898	338	17,872	204	23,026	754	2,421	221	1,038	43	495	281	127	26
1962/63	139	315	47,782	395	21,374	244	26,408	800	2,766	253	1,181	43	532	302	145	27
1963/64	137	311	53,381	441	24,808	283	28,573	860	2,778	254	1,187	43	805	457	257	32
1964/65	139	315	63,073	521	25,849	295	37,228	1,117	3,065	280	1,343	44	757	430	273	36
1965/66	140	318	68,650	567	31,563	360	37,087	1,112	3,140	287	1,388	44	744	406	290	39
1966/67	140	318	75,344	631	36,116	412	39,228	1,117	3,209	293	1,443	45	709	402	302	43
ALL HIGHER EDUCATION																
1957/58	110	100	82,882	100	70,954	100	12,028	100	3,735	100	2,264	61	3,489	100	2,482	71
1958/59	122	110.9	96,890	117	78,911	111	17,979	147	3,931	105	2,352	60	3,985	114	2,721	68
1959/60	143	130	104,786	126	83,993	118	20,793	172	4,160	111	2,603	63	4,334	124	3,002	69
1960/61	204	185.4	140,574	170	94,760	133	45,814	380	5,123	137	3,101	61	5,232	150	3,391	65
1961/62	244	221.8	158,010	190	103,261	145	54,749	455	6,677	178	3,987	60	5,801	166	3,778	65
1962/63	260	236.3	160,092	193	106,439	150	53,653	446	7,736	207	4,547	59	6,054	173	4,060	67
1963/64	260	236.3	160,595	193	106,626	150	53,969	446	8,308	220	4,828	58	6,694	194	4,358	65
1964/65	263	239.0	170,499	205	106,959	150	63,540	528	8,979	244	5,212	58	6,770	194	4,454	66
1965/66	266	241.8	184,923	223	121,824	171	63,099	522	9,133	244	5,467	60	6,627	194	4,627	70
1966/67	267	242.7	195,454	235	132,679	187	62,775	521	9,246	247	5,701	62	6,469	185	4,646	72

Source : Innovation in Higher Education : Reforms in Yugoslavia, Paris, 1970.

PART II

General conclusions - A comparative study of trends in numbers of university teachers and students in OECD Member countries

FOREWORD

By combining the data from the individual country studies that constitute the first part of this survey, it has been possible to summarise in approximate terms the trends in numbers of teachers and students in higher education in OECD Member countries. Owing, however, to the fact that certain data were either lacking or incompatible, it was necessary to limit the field of the survey to university education. In the few countries mentioned below where no distinction was made between university and non-university type education, the figures quoted in tables I, II and III of annex I concern higher education as a whole. They have been included as additional information.

Similarly, the survey has been confined to the main fields of study (1), namely those in which enrolments are highest and the trend is most significant. They are:

Pure science
Technology
Medical sciences
Humanities
Law
Social sciences

Student enrolments in the other fields of study are nevertheless quoted for reference in the tables annexed. They have been counted in total student enrolments for university education in each country (or, where no such distinction is possible, in total enrolments in higher education) and in certain sub-totals, when two fields of study cannot be broken down and analysed separately (e.g. technology and architecture or medical sciences and veterinary science). Lastly, it was decided not to review certain specific components of the total teaching strength because the relevant figures, in that they came from different sources or covered different periods, were not readily comparable. This applies particularly to the proportion of women or part-time teachers in the aggregate teaching strength, overtime, etc.

The differences between countries in the procedure used for compiling statistics and the various teaching duties discharged by teachers of different status are such that it seemed pointless, or even perhaps misleading, to present a statement of "student/teacher" ratios for any given year in the composite survey, as was done in the country studies. The object of analysis has therefore been the trends and tendencies in the university teaching body as a whole and in a few major fields of learning.

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(1) See definition annexed to General Introduction.

Accordingly, the review that follows is in two parts:

I. Average annual growth rates in numbers of teachers and students in university type institutions during the period 1950 to 1965.

II. Structural changes in the university teaching body between 1950 and 1965.

I. Average annual growth rates between 1950 and 1965 in numbers of teachers and students, overall and by main fields of study

It was possible to identify university type establishments proper in the following countries:

Austria
Belgium
Canada
Denmark
France
Germany
Greece
Ireland
Italy

Japan
Netherlands
Norway
Spain
Switzerland
Turkey
United Kingdom
United States
Yugoslavia

For Portugal and Sweden, only figures for higher education as a whole are available, and in Italy all higher education is deemed to be of university type.

In annex I, table I gives the numbers of teachers and student enrolments by field of study and by teacher (1). This has made it possible to calculate the average annual rates of increase or decrease in these numbers between 1950 and 1965, as quoted in table II of annex I.

1. Overall trend in numbers of teachers and students in university education

a) The teaching and student bodies as a whole

From the figures quoted in table II of annex I it is possible to distinguish those countries in which the increase in teachers was more rapid than in students from those in which the reverse was the case.

However, the difference between the teacher and student growth rates varies from country to country, with the result that in the tables which follow three types of trends have been identified. For the first type, the net difference between the average annual growth rates of enrolments and of the teaching body is at least one per cent in favour of teachers. For the second type, the net difference between the two average annual growth rates is between + 1 per cent and - 1 per cent. For the third the number of students has grown by more than one per cent per year more rapidly than that of teachers, and the negative difference between the growth rate for teachers and that for students is more than - 1 per cent. The countries in which the difference is over + 1 per cent in favour of teachers are designated by the sign +; those in which it is over - 1 per cent by the sign -; and the remaining countries by the sign o.

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(1) Except in Germany for 1952, where there were no figures for teachers in West Berlin by field of learning.

Table A

Trend in number of teachers in relation to enrolments for university education as a whole, by countries and by periods (a)

	I 1950-55	II 1955-60	III 1960-65	IV 1955-65
Germany (II 1952-60) (IV 1952-66)		-	+	o
Austria		-	+	-
Belgium		+	-	-
Canada (II 1956-60) (III 1960-67) (IV 1956-67)		o	o	o
Denmark	+	o	+	+
Spain (I 1951-55) (II 1955-59)	+	o	o	
United States		o	-	o
France (IV 1957-65)			+	+
Ireland (III 1960-64)	+	-	+	o
Italy (IV 1955-64)	+	+	-	o
Japan	+	o	-	-
Norway (II 1956-60) (IV 1956-65)		-	-	-
United Kingdom:				
Great Britain (III 1960-64) (IV 1955-64)		o	+	o
Northern Ireland (I 1951-55) (III and IV as for Great Britain)	+	-	+	-
Turkey	-	-	+	o
Yugoslavia	-	o	+	+

Note: (a) + : > + 1%
- : < - 1%
o : - 1% > 0 < + 1%

The overall trend by country and period is shown in table A.

Furthermore, it should be noted that in Portugal the aggregate teaching strength in higher education as a whole declined steadily over the period 1957 to 1965 (- 2.7 per cent).

b) Trend in number of teachers by level in relation to enrolments

The purpose of table B, which covers all those countries in which university teachers can be classified according to the three levels identified for this survey, is to determine the differences between the average annual growth rates for each level and for enrolments. However, in order to keep the survey within reasonable proportions, only the period 1955-1965 was considered. The same criteria of differentiation as those used in table A (+,o,-) were adopted.

Table B reveals trends that vary according to level from country to country. However, in no country did the number of senior level teachers, where these could be differentiated from the other teachers, rise more rapidly than that of students. In regard to middle and junior level teachers, on the other hand, the trend is seen to be divergent. However, in terms of sheer numbers, it is less satisfactory for middle level than for junior level teachers.

Table B

Trend in number of teachers by level in relation to enrolments for university education as a whole between 1955 and 1965(a)

Country	SL	ML	JL
Germany (1952-60) (b)	–	o	+
Austria	–	–	–
Belgium	–	+	+
Canada (1956-67)	–	+	–
Denmark	–	–	+
France (1957-65)	–	+	+
Greece	–	–	
Italy	–	–	o
Japan	o	o	–
Norway (1956-65)	–	–	–
United Kingdom:			
Great Britain (1955-64)	–	o	o
Northern Ireland (1955-64)	–	o	o
United States	–		o
Switzerland	–	–	
Yugoslavia (c)	+		o

Notes: (a) + : > + 1%
- : < - 1%
o = -1% > o < + 1%

(b) West Berlin included throughout.

(c) In the United States and Yugoslavia, statistics concerning senior and middle level teachers are always combined.

2. Trend in number of teachers and students by major fields of study in university education

- PURE SCIENCE

(a) The teaching and student bodies as a whole

Table C was constructed on the same criteria of differentiation as those used previously.

This table shows that there was a very general decrease in numbers of teachers between 1955 and 1960 in those countries for which figures were available and an improvement between 1960 and 1965 in three countries. If the countries for which figures are available are considered as a whole, the situation appears to show a marked improvement after 1960.

Table C

Trend in number of teachers in relation
to enrolments in pure science for
university-type education
(a)

Country	I 1950-55	II 1955-60	III 1960-65	IV 1955-65
Austria (IV 1953-65)				-
Germany (III 1960-66)		(b)	+	(b)
Spain (II 1955-59) (III 1960-64)		-	-	
France (IV 1957-65)			+	+
Italy	+	o	o	o
Norway (II 1956-60)(IV 1956-65)		-	-	-
United Kingdom:				
Great Britain (III 1960-64) (IV 1955-64)		-	+	o
Northern Ireland (I 1951-55) (III 1960-64) (IV 1955-64)	+	-	+	-
Turkey	-	-	+	+
Yugoslavia	+	+	-	+

Notes: (a) + :> + 1%

- :< - 1%

o : - 1% >o< + 1%

(b) Owing to the fact that teachers in West Berlin were not included in the statistics for 1952, the average annual rates of increase in numbers of teachers by field of study taking 1952 as the base year, seem higher than they are in reality. It seemed preferable, therefore, not to attempt a comparison between Germany and other countries.

(b) Trend in number of pure science teachers by level in relation to enrolments

This trend is traced over the period 1955-65 in table D below, which shows that it is only in Austria, Yugoslavia and France that the number of certain teachers has grown faster than enrolments.

- TECHNOLOGY

(a) The teaching and student bodies as a whole

Table E below shows very marked differences between countries and even within individual countries from period to period. It should be noted, however, that in Greece and Turkey the total number of teachers has steadily declined, whereas in Northern Ireland it has continuously risen.

In technology, therefore (table F) it is quite clear that during the period 1955-1965 middle and junior level teachers made the largest contribution to the growth of the aggregate teaching strength and did most to satisfy the quantitative needs created by increased enrolments.

Table D

Trend in number of teachers by level in relation to enrolments in pure science at university level between 1955 and 1965 (a)

Level Country	SL	ML	JL
Austria (1953-65)	-	-	+
France (1957-65)	-	+	+
Greece	-	-	
Italy	-	o	o
Norway (1956-65)	-	-	-
Switzerland (b) (1955-63)	-	-	
United Kingdom:			
Great Britain (1955-64)	-	o	o
Northern Ireland (1955-64)	-	o	-
Yugoslavia	-		o

Notes: (a) + : >+ 1%
- : < -1%
o : -1% > o < + 1%

(b) In Switzerland, the statistics for pure science, technology, architecture, agriculture (excluding veterinary science) and fine arts are combined.

Table E

Trend in number of teachers in relation to enrolments in technology

Period Country	I 1950-65	II 1955-60	III 1960-65	IV 1955-65
Germany (III 1960-66)			+	
Austria (IV 1953-65)				-
Spain (II 1955-59) (III 1960-64)		-	+	
Greece		-	-	-
Italy	+	+	o	+
Norway (II 1956-60) (IV 1956-65)		+	-	o
United Kingdom:				
Great Britain (III 1960-64) (IV 1955-64)		o	o	o
Northern Ireland (I 1951-55) (III 1960-64) (IV 1955-64)	+	+	+	+
Turkey	-	-	-	-
Yugoslavia	o	-	+	+

(b) Trend in number of technology teachers by level in relation to enrolments

Table F

Trend in number of teachers by level
in relation to enrolments in technology

Country \ Level	SL	ML	JL
Austria (1953-65)	-	-	-
Greece (a)	-	-	
Italy	-	+	+
Norway (1956-65)	-	+	o
Switzerland (1955-63)	(b)	(b)	
United Kingdom:			
Great Britain (1955-64)	o	o	+
Northern Ireland (1955-64)	-	+	+
Yugoslavia	+		o

Notes: (a) Including architecture.
(b) See footnote (b) to table D.

- MEDICAL SCIENCES

(a) The teaching and student bodies as a whole

Table G

Trend in number of teachers in relation to
enrolments in medical sciences, by countries
and by periods

Country	I 1950-55	II 1955-60	III 1960-65	IV 1955-65
Austria				-
France (IV 1957-65)			+	+
Germany (III 1960-65)			+	
Italy	+	+	-	+
Norway (II 1956-60) (IV 1956-65)		-	o	-
Spain (II 1955-59) (IV 1960-64)		+	-	
Turkey	+	+	-	+
United Kingdom:				
Great Britain (III 1960-64) (IV 1955-64)		+	+	+
Northern Ireland (I 1951-55) (III 1960-64) (IV 1955-64)	+	+	-	o
Yugoslavia	o	+	+	+

Whereas for pure science there are 12 pluses out of a total of 28 signs and for technology 12 out of a total of 29 signs, the tally for medical sciences is 18 out of 28. The teacher/student ratio is therefore much better in medical sciences.

(b) Trend in number of teachers in medicine by level in relation to enrolments

Table H

Trend in number of teachers by level in relation to enrolments in medical sciences between 1955 and 1965

Level / Country	SL	ML	JL
Austria	-	-	-
France (1957-65)	-	+	+
Greece	-	-	
Italy	+	+	+
Norway (1956-65)	o	-	o
United Kingdom:			
Great Britain (1955-64)	+	+	+
Northern Ireland (1955-64)	+	+	-
Switzerland (1955-63) (a)	-	-	
Yugoslavia	+		+

(a) Including veterinary science.

Table H concerning medical sciences also confirms some special features in the trend of teaching strength. Of the nine countries covered, four recorded a proportionally sharper increase in the number of senior teachers than in that of student enrolments. Furthermore, table II of annex I shows that in a number of countries enrolments in medical sciences grew more slowly than aggregate enrolments, a factor which of course contributed to the trend noted above.

- HUMANITIES

(a) The teaching and student bodies as a whole

Table I

Trend in number of teachers in relation to enrolments in the humanities

Period / Country	I 1950-55	II 1955-60	III 1960-65	IV 1955-65
Austria				-
France (IV 1957-65) (a)			+	+
Germany (III 1960-66)			o	
Italy	+	o	-	-
Norway (II 1956-60) (IV 1956-65)		-	-	-
Spain (II 1955-59) (IV 1956-64)		-	-	
Turkey	o	-	-	-
United Kingdom:				
Great Britain (b) (II 1955-58) (III 1959-64)		-	o	
Northern Ireland (I 1951-55) (III 1960-64) (IV 1955-64)	+	-	-	-
Yugoslavia	-	+	+	+

(a) Including behavioral and social sciences. (b) Including law and architecture.

The overall picture that emerges for the period 1955-65 from the above table is a fairly negative one. Only France and Yugoslavia managed to increase their teaching strength, even though in France the position was particularly bad initially.

(b) Trend in number of teachers by level in relation to enrolments

Table J

Trend in number of teachers by level in relation to enrolments in the humanities 1955 - 1965

Level / Country	SL	ML	JL
Austria	-	-	o
France (1957-65) (a)	-	-	+
Greece	-	+	
Italy	-	-	-
Norway (1956-65)	-	-	-
Switzerland (1955-63) (b)	-	-	
United Kingdom:			
Northern Ireland (1955-65)	-	-	
Yugoslavia	+		+

Notes: (a) Including behavioral and social sciences.
(b) Including education.

Table J serves to underscore the impression conveyed by table I. In France, therefore, the fact that the overall position emerges as positive is solely due to junior level teachers.

- LAW

(a) The teaching and student bodies as a whole

Table K

Trend in number of teachers in relation to enrolments in law

Period / Country	I 1950-55	II 1955-60	III 1960-65	IV 1955-65
Austria				-
France (IV 1957-65) (a)			-	+
Germany (III 1960-65)			o	
Italy	o	+	+	+
Norway (II 1956-60) (IV 1956-65)		+	-	-
Spain (II 1955-59) (III 1960-64)		o	+	
Turkey	-	o	+	+
United Kingdom:				
Great Britain (b)				
Northern Ireland (I 1951-55) (III 1960-64) (IV 1955-64)	o	o	-	-
Yugoslavia	-	-	+	o

Notes: (a) Including economics.
(b) Law is included in humanities (see table I).

Table K likewise reveals widely differing trends as between countries and periods.

(b) Trend in number of teachers by level in relation to enrolments

Table L

Trend in number of teachers by level in relation to enrolments

Country \ Level	SL	ML	JL
Austria	–	–	+
France (1957-65) (a)	–	o	+
Greece	–	–	
Italy	+	+	+
Norway (1956-65)	–	–	+
Switzerland (1955-63) (b)	–	–	
United Kingdom:			
Northern Ireland (1955-65)	–	–	–
Yugoslavia	o		–

Notes: (a) Including law and economics.
(b) Including law and social sciences.

Table L brings out the generally faster increase in junior teachers.

- SOCIAL SCIENCES

(a) The teaching and student bodies as a whole

In many countries and over several periods the increase in the number of teachers did not keep pace with the increase in enrolments. The period from 1960 to 1965 showed something of an improvement over the previous five years (table M).

Table M

Trend in number of teachers in relation to enrolments in social sciences

Country \ Period	I 1950-55	II 1955-60	III 1960-65	IV 1955-65
Austria		–	–	–
France (a)				
Germany (III 1960-66)			–	
Italy	+	–	–	–
Norway (II 1956-60) (IV 1956-65)		–	+	o
Spain (II 1955-59) (III 1960-64)		–	–	
Turkey	–	o	+	+
United Kingdom:				
Great Britain			+	
Northern Ireland (I 1951-55) (III 1960-64) (IV 1955-64)	+	o	–	–
Yugoslavia	–	–	+	+

Note: (a) See humanities (and behavioral and social sciences): table I.

(b) Trend in number of social science teachers by level in relation to enrolments

Table N

Trend in number of teachers by level in relation to enrolments in social sciences

Level / Country	SL	ML	JL
Austria	-	-	o
Greece	-	+	
Italy	-	-	-
Norway (1956-65)	-	-	+
Switzerland (a)			
United Kingdom:			
Northern Ireland (1955-64)	-	-	o
Yugoslavia	+		+

Note: (a) Included in law (see table L).

Here again, (table N), junior level teachers generally showed the most rapid growth rate.

II. Structural changes in the university teaching body between 1950 and 1965

The figures in table III of annex I show a decline in the proportion of senior university teachers in every country (other than Spain) in which the different levels can be separately identified.

The proportion of the total teaching strength represented by middle level teachers grew in Canada, Greece, Spain and the United Kingdom. It also increased in the Netherlands and Switzerland, and probably in Yugoslavia too, but because they use a different procedure for the presentation of statistics, these three countries cannot usefully be compared with the others.

The number of junior level teachers rose more than proportionately in many cases. The proportion of this level to the total number of teachers increased between 1950 or 1955 and 1965 in all the countries under review except Canada, Spain, the United Kingdom and Yugoslavia.

Furthermore, table III of annex I reveals substantially varying proportions of teachers at the different levels according to the country concerned. It has already been pointed out in the foreword that the criteria used to distinguish between senior, middle and junior level teachers were not exactly the same for all countries, but that the apparent differences were probably more formal than real. It may therefore come as something of a surprise to find certain differences between countries regarding the same group of teachers considered in the aggregate and by individual fields of study. Thus, in 1965 senior level teachers accounted for some 30 per cent of the total teaching strength in Belgium but barely 10 per cent in Denmark. Also, in a given field the proportion of assistants and other teachers of the same status sometimes varies considerably as between countries or years. In technology, for example, this proportion was 73 per cent in Italy as against 16 per cent in Great Britain in 1965. Similar differences may be found in table III of annex I for nearly every field of study.

Better than a necessarily lengthy comment on the trend of each level of teachers by field of study and by country, the summary tables O, P and Q should afford a composite picture of these trends in the six Member countries for which statistics are comparable.

Table O

Countries and fields of study in which the proportion of senior level teachers rose between 1955 and 1965

Field of study / Country	Pure science	Technology	Medical sciences	Humanities	Law	Social sciences
Austria						
France (1957-65)						
Germany (1957-65)						
Italy						
Norway (1956-65)			x			
United Kingdom:						
Great Britain (1955-64)			x			
Northern Ireland (1955-64)		x	x		x	

Table P

Countries and fields of study in which the proportion of medium level teachers rose between 1955 and 1965

Field of study / Country	Pure science	Technology	Medical sciences	Humanities	Law	Social sciences
Austria			x			
France (1957-65)						
Germany (1952-66)			x			
Italy				x		
Norway (1956-65)		x				
United Kingdom:						
Great Britain (1955-64)			x	x	x (a)	
Northern Ireland (1955-64)	x	x	x	x	x (a)	

Note: (a) Included in humanities.

Table Q

Countries and fields of study in which the
proportion of teachers of junior status
rose between 1955 and 1965

Field of study Country	Pure science	Techno-logy	Medical sciences	Humanities	Law	Social sciences
Austria		x	x	x	x	x
France (1957-65)	x		x	x	x	x (a)
Germany (1952-64)	x	x		x	x	x
Italy	x	x	x	x	x	x
Norway (1956-65)	x	x	x	x	x	x
United Kingdom:						
Great Britain (1954-64)	x	x		x	x (a)	x (b)
Northern Ireland (1954-64)		x		x	x (a)	x

Notes: (a) Included in humanities.
(b) 1960-64 only.

Conclusions

Owing to the limited range of the foregoing survey, the most that can be attempted is to draw certain indicative and summary conclusions, as follows:

1. There has been a much more than proportional increase in the number of junior university teachers in many countries, as shown in the individual country studies in Part I of this paper and also in the broader international context, as shown by the tentative inter-country comparison that forms Part II;

2. Conversely, there has been a virtually all-round decrease in the number of senior university teachers in countries where these could be identified as a separate group;

3. There is a very great disparity in trends between countries and often between different fields of study within the same country; generally speaking, the trends are more favourable in medicine, whereas in the humanities and social sciences there is often seen to be a decline in the teaching strength;

4. Despite the very rapid rise in enrolments, three countries out of fifteen managed to increase their teaching strength between 1955 and 1965, while seven others kept it virtually stable during the same period.

Full-time and Part-time
Plein temps et temps partiel

		Total					Pure Science / Sciences pures					Architecture					Technology / Technologie					Medical Science / Sciences Médicales				
		Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.
		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T	
ALLEMAGNE GERMANY	1952 ( )	2 750	4 244	4 501	11 505	112 990 ( )	486	788	778	2 052	16 906	59	19	76	184	3 775	254	339	528	1 121	10 066	404	943	1 997	3 344	16 506
	1955																									
	1960 ( )	3 544	6 835	7 006	17 385	205 459 (c)	718	1 364	1 409	3 491	30 127	81	70	138	289	4 982	401	742	940	2 083	34 648	494	1 922	[illegible]	5 283	33 988
	1966 ( )	4 653	8 307	13 584	26 554	266 426 (c)	980	2 004	2 997	5 981	40 559	109	150	284	543	5 622	501	803	1 837	3 141	32 937	661	2 829	4 398	7 888	44 496
AUTRICHE AUSTRIA	1953	425	1 406	557	2 388	15 274	27	72	44	143	594	29	72	37	138	1 302	40	80	41	161	1 678	62	[illegible]	217	530	2 050
	1955 (e)	617	1 405	1 211	3 233	19 274					748					1 589	117	243	339	699	2 352	65	211	526	802	2 881
	1960 -	534	1 675	1 492	3 701	38 533					1 634					3 522	112	259	376	747	5 611					5 944
	1965	645	2 253	2 345	5 243	48 895	45	82	198	325	2 066	38	71	147	256	4 299	61	102	278	441	5 271	71	335	773	1 179	7 961
BELGIQUE BELGIUM	1953	855	731	454	2 040	21 067																				
	1955	907	770	577	2 254	22 462																				
	1960	1 041	1 042	1 142	3 225	28 101																				
	1965	1 442	1 709	2 076	5 227	40 261																				
CANADA (f) (g) (h)	1950																									
	1956	1 179	2 775	3 046	7 000	78 504																				
	1960	1 440	4 504	3 811	9 755	113 864																				
	1967	3 160	13 218	4 322	20 700	261 207																				
DANEMARK DENMARK	1950 (i)	284	233	488	1 005	13 507																				
	1955 (i)	322	253	706	1 281	12 510																				
	1960 (i)	391	149	1 489	2 029	19 381																				
	1965 (i)	504	298	3 916	4 718	37 381																				
ESPAGNE SPAIN	1950	837	925	2 298	4 060	56 425																				
	1955	949	1 240	2 523	4 712	61 409	131	271	443	845	7 193	36	6	36	78	543	215	97	173	485	3 395	204	[illegible]	[illegible]	1 232	22 484
	1959	1 101	1 781	3 431	6 313	80 892	153	364	449	966	12 552	33	30	46	109	723	234	239	444	917	13 692	223	[illegible]	1 094	1 748	22 501
	1960 (k)	1 055	1 802	1 029	3 886	76 752	159	354	294	807	13 071	30	70	62	162	1 350	219	285	323	827	11 250	222	[illegible]	40	686	19 538
	1964	1 213	2 076	2 496	5 785	125 650	175	438	309	830	19 5[illegible]	34	118	259	411	5 820	231	486	1 124	1 861	23 002	242	[illegible]	135	823	26 272
ETATS-UNIS UNITED STATES (m) (n)	1955	197 791		30 138	227 929	857 000																				
	1960 (o)	253 000		42 000	296 000	465 000																				
	1965 (p)	363 000		64 000	427 000	910 848																				
FRANCE	1949						194	509	928	1 631																
	1957	1 556	1 381	2 395	5 332	175 500	312	417	1 196	1 925	53 177					38 469						717	[illegible]	[illegible]	2 076	50 245
	1960	1 721	1 864	4 316	7 901	203 375	394	674	2 564	3 632	66 062					39 284						749	638	1 015	2 402	62 395
	1965	2 114	3 470	13 140	18 724	393 659	560	1 074	6 375	8 009	121 539					61 790						[illegible]	[illegible]	[illegible]	[illegible]	133 [illegible]
GRECE GREECE (*) (u)	1953	440	222		662 [illegible]	17 005 [19 861]	51	15		66	2 119						66	38		104	1 309	54	[illegible]		175	2 926
	1960	444	261		705 [908]	25 827 [28 302]	56	24		80	2 698						76			76	2 338	70	164		234	4 075
	1965	489	414		903 [1 192]	34 463 [38 000]	54	37		91	7 903						83	2		85	4 566	88	224		312	7 900
IRLANDE IRELAND	1950	193		371	664	7 328																				
	1955	199		478	677	8 118																				
	1960	212		627	839	11 089																				
	1964	231		890	1 121	14 185																				
ITALIE ITALY	1950	1 744	2 542	10 059	14 345	227 239	235	647	1 081	1 963	23 158	30	164	274	468	3 606	167	280	906	1 353	29 967	402	354	[illegible]	5 354	49 178
	1955	1 947	2 911	13 799	18 657	206 787	291	798	1 595	2 684	22 233	39	170	351	560	4 405	174	335	1 173	1 682	24 409	443	407	[illegible]	[illegible]	36 859
	1960	1 993	4 289	19 315	25 597	260 961	309	1 205	2 138	3 652	29 189	41	192	634	867	6 042	186	550	1 931	2 667	29 880	455	511	2 726	[illegible]	31 412
	1965	2 597	4 735	25 577	32 909	396 102	431	1 549	3 576	5 556	46 542	49	152	1 046	1 247	9 886	260	775	2 816	3 851	44 414	575	577	9 612	10 764	38 148
JAPON JAPAN	1950	5 847 [7 165]	11 038 [13 990]	2 447 [2 729]	19 332 [23 884]	222 044 [353 883]					5 962					- (x)					29 755 (x) 68 275					4 307 29 364
	1955	11 330 [14 003]	26 384 [34 936]	14 055 [15 030]	51 769 [63 969]	503 705 [579 730]					9 908					- (x)					77 059 (x) 149 638					32 166 42 226
	1960	13 466 [16 320]	31 972 [41 484]	15 583 [16 873]	61 021 [74 677]	617 198 [698 726]					18 093					18 556										
	1965	18 736 [23 728]	44 472 [59 935]	19 996 [22 047]	83 204 [105 710]	923 919 [1 072 420]					30 663					33 540										
NORVEGE NORWAY	1956	295	120	548	963	5 663	50	14	129	193	858						61	23	144	228	1 392	59	54	104	217	959
	1960	331	116	851	1 298	9 446	52	24	226	302	2 005 (s)						69	23	224	316	1 834	73	34	108	215	1 084
	1965	377	196	1 403	1 976	19 363	58	31	361	450	4 078						77	58	311	446	2 751	86	45	166	297	1 528
PAYS-BAS NETHERLANDS	1950	757	362		1 119	29 736	115	78		193	1 424					(A)	113	31		144	5 615	94	61		155	7 705
	1955	917	522		1 439	29 642	148	100		248	1 283					(A)	130	44		174	5 062	125	107		232	8 335
	1958	1 073	572		1 645	35 131	172	107		279	5 392					(A)	162	68		290	6 661	143	113		256	6 031
PORTUGAL (**)	1957				[1 521]	[20 130]				[1 387]	[3 016]									[127]	[2 175]				[260]	[3 766]
	1960				[1 645]	[24 502]				[illegible]	[illegible]									[121]	[2 317]				[313]	[3 618]
	1965				[2 107]	[34 985]				[2 283]	[6 230]									[161]	[2 767]				[389]	[4 255]
ROYAUME-UNI UNITED KINGDOM [redacted]	1950	[illegible]	[illegible]	[illegible]	8 603																					
	1955	1 491	6 513	[illegible]	10 202	85 194	508	[illegible]	555	[illegible]	18 135						240	[illegible]	176	1 260	11 379	292	1 266	506	2 064	15 992
	1960	1 627	8 148	2 642	12 417	107 699	565	2 119	717	3 401	26 455						177	1 323	313	1 813	16 225	342	1 510	530	2 382	15 362
	19[illegible]	2 175	11 310	3 632	17 117	138 711	593	3 176	1 114	4 883	36 786						231	1 694	357	2 282		428	1 931	585	2 944	20 262
IRLANDE DU NORD NORTHERN IRELAND (B)	1951	40	102	86	228	2 251	5	16	29	50	333						1	4	5	10	338	11	[illegible]	14	50	679
	1955	46	145	101	292	2 171	9	33	32	74	383						4	11	3	18	335	12	[illegible]	22	[illegible]	558
	1960	50	200	79	329	3 319	10	47	33	90	743						5	25	12	42	501	14	75	17	106	616
	1964 (1)	62	302	119	483	4 296	13	83	14	110	929				1		7	44	16	67	764	16	71	20	107	670
SUEDE/SWEDEN (**)	1965	2 293	756	2 307	5 356	71 050					10 386	851	101	324	1 276		338	16	664	1 018	8 377	493	223	411	1 127	6 947
SUISSE SWITZERLAND	1950	914	688 (H)		1 602		109	204		313 (I)												185	187		372	3 469
	1955	971	786		1 757	15 940	128	237		365 (I)	5 617 (I)											205	215		420	3 326
	1960	1 100	896		1 996	20 264	387	283		670 (I)	7 096 (I)											234	238		472	3 355
	1963	1 100	930		2 030	27 753	418	295		713 (I)	10 267 (I)											224	245		469	4 127
TURQUIE TURKEY	1950				1 842	23 414				186	2 036				42	274				172 [268]	1 192 [1 738]				449	4 264
	1955				2 332	32 733				221	3 375				97	439				237 [337]	1 816 [2 861]				591	4 057
	1960				3 106	48 081				271	5 151				63	570				275 [354]	2 616 [6 078]				1 115	5 288
	1965				4 650	66 061				559	7 280				109	734				474 [1 163]	4 885 [13 755]				1 757	10 381
YOUGOSLAVIE YUGOSLAVIA	1950	2 914 [illegible]		2 602 [illegible]	4 916 [illegible]	54 482 [60 822]	134		147	281	4 [illegible]						601		653	1 314 (O)	12 166 (O)	333 [400]		997 [1 009]	1 332 [1 409]	10 075 [10 395]
	1955	[illegible] [3 002]		2 811 [illegible]	5 151 [illegible]	62 015 [69 690]	186		245	411	5 375						632		830	1 462 (O)	13 738 (O)	366 [411]		[illegible]	[illegible]	9 401 [8 629]
	1960	[illegible]		[illegible]	[illegible]	[illegible]	295		261	556	8 206						882 [1 095]		1 527 [1 608]	2 414 (O) [2 703]	26 489 (O) [28 347]	[illegible]		[illegible]	[illegible]	12 489 [13 157]
	1965	[illegible]		[illegible]	[illegible]	[illegible]	487		414	841	9 171						761 [illegible]		[illegible]	852 (O) [1 047]	31 957 (O) [34 535]	846 [1 011]		[illegible]	[illegible]	13 921 [15 913]

General remarks : Figures in [ ] refer to all higher education.
(*) Refers to university education and some institutions of non-university type education.
(**) Refers to all higher education of university and non-university type.

Notes :
(a) For the distribution by field of specialisation and status, see the corresponding monograph. However, in general, the distinction has been made as follows :
SL = Full or extraordinary professors (those holding chairs and those not holding chairs), emeritus and honorary professors.
ML = Lecturers, assistant lecturers, "maîtres de conférences", etc..
JL = Assistants and other teaching staff of same level.
(b) Student enrolments include West Berlin ; the teaching staff includes West Berlin only in the total ; this explains why the total is not the sum of the different fields.
(c) Does not include the student-teachers in the Teacher Training Institutes nor teachers in the "Realschule" or vocational schools (in 1966/67, there were 15,048) attached to universities.
(d) Berlin included.
(e) Due to a lack of precise data, Pure science and Architecture have been included under Technology in 1955 and 1960 ; Medical Sciences and Law have been included under Humanities in 1960.
(f) Figures for teachers concern only those employed full time.
(g) Concerns full time students in universities and colleges. The total of full time + part time students amounted to 91,500 in 1956 and 145,100 in 1960.
(h) JL represents the difference between the total estimate of full time teachers and the ML and SL teachers.
(i) Institutions taken into account in addition to those considered for 1950, 1955 and 1960 ; they are : Danish Academy of Engineers and the College of Dentistry of Aarhus (from 1961 onwards) ; the Teacher Training College (from 1962 onwards) ; the School of Business Economics of Aarhus (from 1965 onwards).
(j) A break occured in the statistical classification between 1955 and 1960 for the ML and JL teachers. A comparison between the period before and after 1960 for these teachers would therefore be meaningless.
(k) Any comparison between the period 1960/61 and 1964/65 and the preceding years is impossible due to changes in statistical methods in 1960/61 (for more detail see monograph).
(l) The year 1965/66 has not been taken into consideration since changes in statistical methods which occured this year would have rendered all comparisons with previous years meaningless (for more detail see monograph).
(m) In the United States, the group SL + ML includes all teachers of "Instructor" level or above ; the JL group includes teachers of a level lower than that of "Instructor" (Junior instructional staff).
(n) These figures concern degree-credit courses for first degree or higher level degree. The students are full time students enrolled in degree-credit courses working towards a first or higher level degree. The total full time + part time students amounted to 2,660,000 in 1955, 3,582,726 in 1960 and 5,526,325 in 1965.
(o) Interpolation.
(p) Estimates.
(q) Humanities and Human Sciences.
(r) Law and Economics.
(s) Associate professors, foreign lecturers in Humanities, staff responsible for practical work in Law, monitors and staff of "Grands Etablissements" in higher education are not included in this Table.
(t) These totals include also all the students enrolled for the "Capacité en Droit" (Law) who are non-university type students.
(u) Architecture is included in Technology.
(v) For a more accurate comparison with statistics on teachers, students enrolled in 1955 in the Advanced School for Industrial Studies in Athens (1,023) have been excluded. But these enrolments (students and teachers) are included in 1960 and 1965 as well as those of the Advanced School of Industrial Studies of Thessalonika.
(w) In Italy, Higher education is always considered to be university type higher education.
(x) Students in Architecture are included in Technology.
(y) Students in Law are included in Social Sciences.
(z) Breakdown by field of study for students enrolled in the Teacher Training College.

(A) No breakdown possible for students in Architecture and Technology.
(B) Full time teachers only.
(C) Humanities include Education and, until 1958/59, Social Sciences. The figures in this Table are t
and 1964.
(D) Enrolments in Law cannot be separated from those in the Humanities until 1965/66.
(E) Humanities include Fine Arts.
(F) Physical Education only.
(G) Enrolments in Education are those in non university type education only.
(H) In 1950, the teachers were : SL = 914, ML = 688; SL+ML = 1,602. To make a comparison possible wit
of 1952.
(I) Includes Architecture, Technology, Fine Arts and Agriculture.
(J) Includes Education.
(K) Includes Social Sciences.
(L) Students in 1951.
(M) Students of "Category B" (see MRP/Turkey).
(N) As from 1958/59 the field "Other" includes only the Naval Schools.
(O) Includes Architecture
(P) Does not include the Teacher Training Schools for secondary schools teachers. Includes teaching st
monitors of schools for Physical Education.

ANNEX I - ANNEXE A

TABLE I : TEACHING STAFF AND STUDENT ENROLMENTS BY COUNTRY AND FIELD OF SPECIALISATION BETWEEN 1950 AND 1965 IN UNIVERSITY INSTITUTIONS (a)
TABLEAU I : EFFECTIFS DES ENSEIGNANTS ET DES ETUDIANTS PAR PAYS ET PAR BRANCHE ENTRE 1950 ET 1965 DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE (a)

Technology / Technologie				Medical Sciences / Sciences Médicales					Agriculture					[illegible]					[illegible]					Fine Arts / Beaux Arts			
Teaching Staff Enseignants			Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants			
M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T
339	528	1 121	19 086	404	943	[illegible]	[illegible]	[illegible]	126	155	199	480	4 270	750	455	270	1 475	21 043	[illegible]	[illegible]	[illegible]	97	1 416				
742	940	2 083	34 648	494	1 922	[illegible]	[illegible]	41 988	206	357	336	890	4 331	1 030	1 651	637	3 338	49 018	1	[illegible]	[illegible]	50	3 932				
803	1 837	3 141	32 937	661	2 629	[illegible]	[illegible]	44 496	241	509	597	1 447	5 294	1 309	1 582	1 582	4 474	64 467	2	[illegible]	16	84	3 162				
80	41	161	1 678	52	231	[illegible]	150	2 050	31	86	39	156	803	160	450	121	731	3 102						24	261	18	303
243	339	699	2 362	85	211	[illegible]	[illegible]	2 881	47	73	75	196	751	255	451	225	931	4 384						26	298	8	334
259	376	747	5 611					3 944	36	88	83	207	1 226	328	882	1 004	2 214	6 642						42	364	7	413
102	278	441	5 271	71	335	[illegible]	[illegible]	7 961	42	108	110	260	1 696	235	786	669	1 690	13 318						72	626	7	705
97	173	485	3 395	204	375	[illegible]	[illegible]	[illegible]	55	60	122	237	2 771	155	203	432	790	5 147									
239	444	917	13 692	223	436	[illegible]	[illegible]	32 301	57	121	140	318	2 364	160	252	377	[illegible]	7 343									
285	323	827	11 250	222	424	[illegible]	[illegible]	19 538	59	132	60	251	2 557	178	229	152	559	6 548									
486	1 124	1 861	23 002	242	446	[illegible]	[illegible]	[illegible]	75	124	165	364	4 378	221	265	314	823	13 339									
																(q)											
				717	546	[illegible]	[illegible]	50 245						221	155	132	511										
				749	638	1 011	2 402	62 395						224	266	255	609	50 245									
				850	1 490	[illegible]	[illegible]	[illegible]						293	300	497	1 150	62 395									
														346	508	1 766	4 124	133 610									
38		104	1 309	54	111		[illegible]	[illegible]	[illegible]	10		76	503	73	17		90	2 033					139 [2 998]	10			10
		76	2 338	70	163		233	4 075	67	22		89	1 135	51	24		75	3 191					163 [2 644]	12			12
2		85	4 566	88	224		312	[illegible]	[illegible]	48		119	3 053	74	48		122	[illegible]					349 [3 413]	10	5		15
280	906	1 353	29 967	402	364	[illegible]	[illegible]	[illegible]	142	260	546	1 007	7 857	309	357	1 280	1 946	46 974									
335	1 173	1 682	24 409	443	407	[illegible]	[illegible]	[illegible]	153	344	775	1 272	5 295	356	378	1 584	2 318	37 545									
550	1 931	2 667	29 880	455	571	[illegible]	[illegible]	31 412	[illegible]	394	954	1 477	4 594	312	749	2 250	3 341	52 656									
775	2 616	3 851	44 414	575	577	[illegible]	[illegible]	38 140	199	341	1 207	1 747	[illegible]	453	767	3 127	4 347	118 455									
			29 755 (x)					4 307					10 330					26 521					36 147				
			68 275					[illegible]					25 800					[illegible]					62 631				
			77 059 (x)					[illegible]					28 751					96 672					59 674				
			149 638					[illegible]					38 165					143 495					64 541				
23	144	228	1 392	59	54	[illegible]	[illegible]	939	40	7	76	123	382	62	14	[illegible]	143	1 482									
23	224	316	1 834	73	34	[illegible]	[illegible]	1 084	41	6	90	139	411	63	14	134	211	3 000	7	5	20	31					
58	311	446	2 751	86	45	165	[illegible]	1 528	42	18	179	239	516	70	20	201	291	7 691	9	6	41	56					
31		144	5 615	94	61		[illegible]	[illegible]	50	35		85	[illegible]	227	93		320	4 289									
44		174	5 068	185	107		[illegible]	[illegible]	52	42		104	[illegible]	260	137		397	5 314									
68		290	6 661	143	113		[illegible]	8 033	65	35		113	[illegible]	299	155		454	8 800									
		[127]	[2 179]				[illegible]	[illegible]				[387]	[119]				[386]	[3 011]				[17] (P)	[171]				[16]
		[128]	[2 377]				[illegible]	[illegible]				[263]	[illegible]				[469]	[illegible]				[illegible]	[illegible]				[illegible]
		[163]	[2 768]				[illegible]	[illegible]				[268]	[illegible]				[527]	[illegible]				[19]	[illegible]				[illegible]
944	176	1 260	11 379	292	1 200	[illegible]	[illegible]	13 992	52	323	376	751	3 043	629	2 403	673	3 705 (C)	36 647 (C)									
1 323	815	1 813	16 223	342	1 510	[illegible]	[illegible]	15 562	38	398	55	809	3 273	[illegible]	2 603	643	3 892 (C)	41 132 (C)									
1 694	397	2 382		428	1 931	[illegible]	[illegible]	20 292	47	472	355	894	16 346	520	2 181	918	5 219 (C)	34 099 (C)									
														846	2 901	824	4 371 (C)	44 305 (C)									
4	5	10	338	11	25	[illegible]	[illegible]	[illegible]	5	11	2	38	[illegible]	9	25	13	47 (E)	614 (E)	1	2	1	4	38				
11	3	18	335	12	46	[illegible]	[illegible]	[illegible]	5	22	10	37	[illegible]	10	33	14	57 (E)	619 (E)	1	3		4	46				
25	12	42	601	14	75	[illegible]	[illegible]	[illegible]	5	22	10	37	[illegible]	10	50	14	74 (E)	941 (E)	1	4		4	56				
44	18	67	764	16	71	[illegible]	[illegible]	[illegible]	5	24	17	46	98	12	51	22	[illegible]	[illegible] (E)	1	6		7	133				
10	644	1 018	8 377	493	273	[illegible]	1 127	[illegible]	160	137	94	391	[illegible]	[illegible]	[illegible]	147	710	18 046	4	10	2	16 (F)	298 (	13	65	4	88 ( )
				185	187		372	3 469						268	158		436 (J)	3 122 (J)									
				205	215		420	3 326						270	196		466 (J)	3 391 (J)									
				234	238		472	3 355						295	217		512 (J)	5 029 (J)									
				224	245		[illegible]	4 127						273	222		495 (J)	6 604 (J)									
		172 [268]	1 198 [1 738]				449	4 264				166	1 202				231 [293]	2 829				92 [illegible]	856 [illegible]				96
		237 [337]	1 818 [2 863]				[illegible]	[illegible]				260 [269] (M)	1 442 [1 906] (M)				268 [344]	2 462				81 [231]	687 [1 618]				114
		275 [754]	2 619 [6 078]				[illegible]	5 288				415 [515] (M)	1 568 [2 231] (M)				365 [541]	8 387				149 [382]	1 745 [4 231]				104
		474 [1 163]	4 882 [13 759]				[illegible]	[illegible]				444	4 235				408 [550]	13 550				243 [479]	1 393 [5 074]				207
661	653	1 314 (O)	12 166 (O)	333 [400]		[illegible]	[illegible]	10 075	349		475	824			272	142	414	8 234	31 [270]		24 [37]	57 [302]	64 [6 011]		277	35	312
632	830	1 462 (O)	13 738 (O)	366 [431]		[illegible]	[illegible]	[10 395]	377		162	739	4 345		270	324	594	13 975	17 [373]		[illegible]	42 [510]	235 [8 357]		251	83	334
987 [1 093]	1 527 [5 609]	2 414 (O) [3 703]	26 489 (O) [38 341]	552 [670]		[illegible]	[illegible]	9 401 [illegible]	536 [611]		563 [568]	1 090 [1 179]	11 219 [12 462]		352	626	978	15 258	42 [349]		16 [illegible]	80 [823]	552 [10 446]		304	89	393
761 [2 643]	[illegible] [5 397]	1 852 (O) [8 042]	31 957 (O) [54 533]	848 [1 011]		[illegible]	[illegible]	[illegible]	763 [951]		560 [691]	1 428 [1 641]	7 848 [8 330]		671	555	1 226	13 705	230 [334]		121 [338]	351 [1 672]	3 210 [27 784]		401	99	500

A) No breakdown possible for students in Architecture and Technology.
) Full time teachers only.
) Humanities include Education and, until 1958/59, Social Sciences. The figures in this Table are those for the years 1955, 1958, 1959 and 1964.
) Enrolments in Law cannot be separated from those in the Humanities until 1965/66.
) Humanities include Fine Arts.
) Physical Education only.
) Enrolments in Education are those in non university type education only.
) In 1950, the teachers were : SL = 914, ML = 688, SL+ML = 1,602. To make a comparison possible with students, the figures are those of 1952.
) Includes Architecture, Technology, Fine Arts and Agriculture.
) Includes Education.
) Includes Social Sciences.
) Students in 1951.
) Students of "Category B" (see MRP/Turkey).
) As from 1958/59 the field "Other" includes only the Naval Schools.
) Includes Architecture
) Does not include the Teacher Training Schools for secondary schools teachers. Includes teaching staff of courses for teachers and monitors of schools for Physical Education.

Remarques générales : Les chiffres entre [ ] sont ceux de l'ensemble de l'enseignement supérieur.
(*) Concerne l'enseignement universitaire et quelques établissements d'enseignement non universitaire
(**) Concerne l'ensemble de l'enseignement supérieur de type universitaire et non universitaire

Notes :
(a) Pour la répartition par branche et les statuts se reporter aux monographies correspondantes. Toutefois, de façon générale, la distinction a été faite de la manière suivante :
SS = Professeurs ordinaires et extraordinaires (titulaires de chaires ou non titulaires de chaires), professeurs émérites et honoraires ;
SM = Maîtres de conférences, lecteurs, chargés de cours, etc..
SI = Assistants et autres enseignants de même niveau.
(b) Les effectifs des étudiants comprennent Berlin-Ouest, les effectifs d'enseignants incluent Berlin-Ouest seulement pour le total, ce qui entraîne que le total n'est pas égal à la somme des différentes branches.
(c) Ne comprend pas les élèves-maîtres des Ecoles Normales d'instituteurs, d'enseignants des "Realschule" et d'écoles professionnelles (en 1966/67, ils étaient au nombre de 15.048) rattachées aux universités.
(d) Berlin compris.
(e) A la suite d'un manque de données exactes Sciences Pures et Architecture ont été ajoutées à Technologie en 1955 et 1960, Sciences médicales et Droit ont été ajoutés à Lettres en 1960.
(f) Les chiffres pour les enseignants ne concernent que ceux qui sont employés à temps complet.
(g) Les étudiants sont ceux à plein temps des universités et collèges ; le total étudiants à plein temps plus étudiants à temps partiel était de 91 500 en 1956 et de 145 100 en 1960.
(h) SI comprend la différence entre l'estimation du total des enseignants à temps plein et les enseignants SM + SS.
(i) Des établissements ont été pris en compte en plus de ceux considérés pour les années 1950, 1955 et 1960. Ce sont : l'Académie danoise d'Ingénieurs et l'Ecole supérieure d'Art dentaire d'Aarhus (à partir de 1961) ; l'Ecole normale supérieure (à partir de 1962) ; l'Ecole supérieure de Commerce d'Aarhus (à partir de 1965).
(j) Il y a rupture dans la classification statistique entre 1955 et 1960 pour les enseignants SM et SI. Une comparaison entre la période qui précède 1955 et celle qui succède à 1960 pour ces enseignants serait donc dépourvue de sens.
(k) Toute comparaison entre la période 1960/61 et 1964/65 et les années précédentes est impossible du fait des changements statistiques intervenus en 1960/61 (pour toute précision voir monographie).
(l) L'année 1965/66 n'a pu être utilisée car des changements statistiques intervenus cette année auraient empêché toute comparaison avec les années précédentes (pour toute précision voir monographie).
(m) Pour les Etats-Unis le groupe SS + SM comprend tous les enseignants du niveau d'"instructor" ou de niveau supérieur (instructors or above) ; le groupe SI comprend les enseignants de niveau inférieur à "instructor" (junior instructional staff).
(n) Ces chiffres concernent les études pour un 1er diplôme ou diplôme supérieur (degree-credit).
Les étudiants sont ceux à plein temps dans les études menant à un 1er diplôme ou diplôme supérieur (degree-credit) ; le total étudiants à plein temps + étudiants à temps partiel était de 2.660.000 en 1955, 3.582.726 en 1960 et 5.526.32 en 1965.
(o) Interpolation
(p) Estimation
(q) Lettres et Sciences Humaines
(r) Droit et Sciences économiques
(s) Les professeurs associés, les lecteurs étrangers des facultés de Lettres, les chargés de travaux pratiques des facultés de Droit, les moniteurs et le personnel des "grands établissements" d'enseignement supérieur ne sont pas compris dans ce tableau.
(t) Ces totaux comprennent également tous les inscrits pour la capacité en Droit qui sont des étudiants de niveau non universitaire.
(u) Architecture est comprise dans Technologie.
(v) Afin de permettre une comparaison adéquate avec les effectifs d'enseignants, on a retiré pour l'année 1955 les étudiants de l'Ecole des Hautes Etudes Industrielles d'Athènes (soit 1.023 individus). Mais ces effectifs (étudiants et enseignants) sont inclus en 1960 et 1965, ainsi que ceux de l'Ecole des Hautes Etudes industrielles de Thessalonique.
(w) En Italie, l'enseignement supérieur est toujours uniquement universitaire.
(x) Le nombre des étudiants en Architecture est inclus dans celui de Technologie.
(y) Le nombre des étudiants en Droit est inclus dans celui des Sciences Sociales.
(z) Répartition par branche d'étude des effectifs d'étudiants de l'Ecole Normale supérieure.

0 AND 1965 IN UNIVERSITY INSTITUTIONS (a)
LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE (a)

							Fine Arts / Beaux Arts					Law / Droit					Socials Sciences/Sciences Sociales					Others / Autres				
	Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.
T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T		S.L. S.S.	M.L. S.M.	J.L. S.I.	T	
475	21 843	27	31	39	97	1 416						205	170	98	473	12 135	179	248	150	577	17 012					30
338	49 036	1	34	24	59	3 932						268	221	190	699	18 802	325	455	400	1 180	25 454		19	45	64	105
474	64 487	2	63	19	84	3 162						374	119	479	972	24 999	463	352	1 045	1 860	44 543	23	95	46	164	189
731	3 102						24	261	18	303	1 440	39	84	12	135	2 834	13	70	8	91	1 481					
931	4 384						25	298	8	334	1 236	60	62	35	157	3 307	25	67	22	114	1 855					
214	9 542						42	364	7	413	1 341					6 318	16	82	22	120	3 295					
1 090	13 318						72	626	7	705	1 887	61	73	113	247	8 133	20	70	50	140	4 164					
290	3 347													516	832	17 385	16	49	148	213	2 291					
[illegible]	2 345													600	987	14 773	62	75	286	423	5 742					
309	6 548													7	366	13 673	35	82	61	178	6 365					
[illegible]	17 339													74	484	15 307	46	94	79	189	11 950					
														(r)												
311																										
509	90 245													131	522	33 609(t)										
1 150	92 395													240	717	33 634(t)										
164	[illegible]													772	1 440	17 114(t)										
50	2 433					139 [2 998]	10			10	105				63	2 627	77	1		78	4 552(v)					
75	3 193					163 [2 644]	12			12	109	38	22		60	4 065	74	5		79	8 012(v)					
172	3 250					349 [3 413]	10	5		15	134 [281]	41	34		75	7 814	68	16		84	16 494(v)					
046	46 974											312	183	710	1 205	36 636	147	258	644	1 049	30 263					
318	37 545											316	185	913	1 414	42 563	175	294	900	1 369	33 478					
341	52 656											302	262	1 334	1 898	46 649	189	406	1 348	1 943	60 539					
317	118 455											365	219	2 077	2 661	41 469	265	355	2 116	2 736	91 680					
	26 521					36 147					1 828					– (y)					91 682(y)					15 572
	75 653					62 631					5 924					– (y)					205 549(y)					19 571
	96 672					59 674					9 375					– (y)					258 515(y)					16 336
	143 490					64 541					16 124					80 171					304 771					20 584
143	1 482											13	3	10	26	591	10	5	18	33	303					
211	3 000	7	4	20	31							15	6	23	44	711	11	3	26	40	401					
291	7 691	9	6	41	56							11	2	27	40	1 390	24	16	117	157	1 381					
320	4 289											76	24		100	3 251	82	40		122	3 776					
397	6 314											93	31		124	2 538	101	61		162	3 832					
134	8 800											98	31		129	2 623	111	53		164	4 254					
[786]	[5 011]				[172] (F)	[717]				[116]	[1 039]				[152]	[1 445]				[176]	[1 472]				[100]	[20 430]
[418]	[5 973]				[78]	[359]				[77]	[1 140]				[245]	[2 911]				[171]	[2 091]				[113]	[24 908]
[292]	[9 232]				[110]	[598]				[115]	[1 118]				[298]	[3 349]				[251]	[5 102]				[143]	[34 567]
705 (C)	36 647 (C)														(D)	– (D)										
792 (C)	43 132 (C)																									
719 (C)	34 099 (C)														(D)	(D)	162	696	188	986	11 807					
371 (C)	44 305 (C)														(D)	(D)	260	1 136	397	1 793	17 591					
47 (E)	634 (E)	1	2	1	4	38						2	3	1	6	73	2	6	1	9	94	1	7		8	
57 (E)	619 (E)	1	3		4	46						2	4	1	7	82	2	8	4	14	103	1	6		7	
74 (E)	941 (E)	1	3		4	56						2	6	1	9	102	2	11	9	24	181	1	7		8	
[illegible] (E)	[illegible] (E)	1	6		7	133						3	4	1	8	170	3	13	9	25	228	1	6		7	
710	18 044	4	16	2	16 (F)	298 (	13	65	4	82 ( )		68	4	14	86	3 069	370	111	251	752	22 986					
436 (J)	3 122 (J)											152	129		281 (K)	3 860(L)										
406 (J)	3 891 (J)											168	138		306 (K)	3 586 (K)										
512 (J)	5 049 (J)											184	158		342 (K)	4 784 (K)										
495 (J)	6 604 (J)											185	168		353 (K)	6 755 (K)										
231 [293]	2 829				92 [833]	856 [3 310]				96	506				97	6 [illegible]				96 [754]	2 331 [3 980]				211	1 984
[illegible] [1 447]	2 462				81 [2 317]	687 [1 618]				114	421				115	13 173				105 [215]	3 051 [6 892]				280	1 814
285 [417]	8 387				149 [382]	1 745 [4 233]				104	639				131	14 631				184 [360]	5 249 [16 463]				34 (N)	223
197 [590]	13 550				243 [479]	1 391 [6 074]				207	1 102				186	14 387				244 [449]	5 838 [23 622]				28 (N) [45]	199 [464]
474	8 234	31 [270]		24 [31]	57 [307]	64 [8 011]	277		35	312	1 145		100	58	158	1 551	151 [214]		71 [74]	224 [288]	7 103 [7 561]					
394	13 975	17 [73]		38 [43]	40 [612]	233 [8 357]	231		83	334	1 253		162	87	249	7 008	78 [129]		78 [78]	197 [201]	5 717 [6 864]					
976	15 258	42 [149]		36 [74]	80 [223]	552 [10 446]	304		89	393	1 496		173	119	292	16 740	195 [871]		155 [467]	350 [1 217]	18 010 [33 546]					
726	13 705	230 [334]		121 [338]	351 [1 672]	3 210 [27 724]	401		99	500	2 014		354	169	525	16 026	530 [1 331]		245 [347]	781 [1 684]	16 424 [46 503]					

es chiffres entre [_] sont ceux de l'ensemble de l'enseignement supérieur.

oncerne l'enseignement universitaire et quelques établissements d'enseignement non universitaire

oncerne l'ensemble de l'enseignement supérieur de type universitaire et non universitaire

our la répartition par branche et les statuts se reporter aux monographies correspondantes. Toutefois, de façon énérale, la distinction a été faite de la manière suivante :

= Professeurs ordinaires et extraordinaires (titulaires de chaires ou non titulaires de chaires), professeurs émérites et honoraires ;

= Maîtres de conférences, lecteurs, chargés de cours, etc..

= Assistants et autres enseignants de même niveau.

es effectifs des étudiants comprennent Berlin-Ouest, les effectifs d'enseignants incluent Berlin-Ouest seulement pour e total, ce qui entraîne que le total n'est pas égal à la somme des différentes branches.

e comprend pas les élèves-maîtres des Ecoles Normales d'instituteurs, d'enseignants des "Realschule" et d'écoles rofessionnelles (en 1966/67, ils étaient au nombre de 15.048) rattachées aux universités.

erlin compris.

la suite d'un manque de données exactes Sciences Pures et Architecture ont été ajoutées à Technologie en 1955 et 1960, ciences médicales et Droit ont été ajoutés à Lettres en 1960.

es chiffres pour les enseignants ne concernent que ceux qui sont employés à temps complet.

es étudiants sont ceux à plein temps des universités et collèges ; le total étudiants à plein temps plus étudiants à emps partiel était de 91 500 en 1956 et de 145 100 en 1960.

I comprend la différence entre l'estimation du total des enseignants à temps plein et les enseignants SM + SS.

es établissements ont été pris en compte en plus de ceux considérés pour les années 1950, 1955 et 1960. Ce sont : 'Académie danoise d'Ingénieurs et l'Ecole supérieure d'Art dentaire d'Aarhus (à partir de 1961) ; l'Ecole normale upérieure (à partir de 1962) ; l'Ecole supérieure de Commerce d'Aarhus (à partir de 1965).

l y a rupture dans la classification statistique entre 1955 et 1960 pour les enseignants SM et SI. Une comparaison ntre la période qui précède 1955 et celle qui succède à 1960 pour ces enseignants serait donc dépourvue de sens. oute comparaison entre la période 1960/61 et 1964/65 et les années précédentes est impossible du fait des changements tatistiques intervenus en 1960/61 (pour toute précision voir monographie).

'année 1965/66 n'a pu être utilisée car des changements statistiques intervenus cette année auraient empêché toute omparaison avec les années précédentes (pour toute précision voir monographie).

our les Etats-Unis le groupe SS + SM comprend tous les enseignants du niveau d'"instructor" ou de niveau supérieur nstructors or above) ; le groupe SI comprend les enseignants de niveau inférieur à "instructor" (junior instructional taff).

es chiffres concernent les études pour un 1er diplôme ou diplôme supérieur (degree-credit).

es étudiants sont ceux à plein temps dans les études menant à un 1er diplôme ou diplôme supérieur (degree-credit) ; e total étudiants à plein temps + étudiants à temps partiel était de 2.660.000 en 1955, 3.582.726 en 1960 et 5.526.325 n 1965.

nterpolation

stimation

ettres et Sciences Humaines

roit et Sciences économiques

es professeurs associés, les lecteurs étrangers des facultés de Lettres, les chargés de travaux pratiques des facultés e Droit, les moniteurs et le personnel des "grands établissements" d'enseignement supérieur ne sont pas compris dans e tableau.

es totaux comprennent également tous les inscrits pour la capacité en Droit qui sont des étudiants de niveau non niversitaire.

rchitecture est comprise dans Technologie.

fin de permettre une comparaison adéquate avec les effectifs d'enseignants, on a retiré pour l'année 1955 les tudiants de l'Ecole des Hautes [illegible] Industrielles d'Athènes (soit 1.023 individus). Mais ces effectifs (étudiants et nseignants) sont inclus en 1960 et 1965, ainsi que ceux de l'Ecole des Hautes Etudes industrielles de Thes[illegible]ique.

n Italie, l'enseignement supérieur est toujours uniquement universitaire.

e nombre des étudiants en Architecture est inclus dans celui de Technologie.

e nombre des étudiants en Droit est inclus dans celui des Sciences Sociales.

épartition par branche d'étude des effectifs d'étudiant de l'Ecole Normale supérieure.

(A) Architecture et Technologie confondues.
(B) Enseignants à plein temps seulement.
(C) Lettres inclut Education et, jusqu'en 1958/59, Sciences Sociales. Les effectifs présentés sont donc ceux de 1955, 1958, 1959 et 1964.
(D) Les effectifs inscrits en Droit ont été confondus avec Lettres jusqu'en 1965/66.
(E) Lettres comprend Beaux-Arts.
(F) Seulement Education physique.
(G) Les effectifs en éducation sont ceux du non universitaire seulement.
(H) En 1950, les enseignants étaient : SS = 914, SM = 688 ; SS + SM = 1 602; par souci de comparabilité avec les étudiants, les chiffres retenus sont ceux de 1952.
(I) Inclut Architecture, Technologie, Beaux-Arts et Agriculture.
(J) Inclut Education.
(K) Inclut Sciences Sociales.
(L) Etudiants en 1951.
(M) Elèves de "catégorie B" (voir F.R.M./Turquie).
(N) A partir de 1958/59 la branche "Autres" ne comprend que les Ecoles de Marine.
(O) Inclut Architecture.
(P) N'inclut pas les écoles normales secondaires. Inclut le personnel enseignant des cours les professeurs et moniteurs des Ecoles d'Education physique.

TABLE II : ANNUAL RATE OF GROWTH OF TEACHING
BETW

TABLEAU II : TAUX ANNUEL MOYEN D'ACCROISSEMENT D
ET BRAN

		TOTAL					Pure Science / Sciences pures					Architecture					Technology / Technologie					Medical Science/Sciences			
		Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants			
		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T
ALLEMAGNE GERMANY	1952-60 (b)	3.2	6.1	5.7	5.3	7.8	5.0	7.1	7.7	6.9	7.5	4.0	4.6	7.7	5.8	3.5	5.9	10.3	7.5	8.1	7.8	2.5	9.2	4.7	5.9
	1960-66	4.7	3.3	11.6	7.3	4.4	5.3	6.6	13.4	9.4	5.1	5.1	13.5	12.8	11.1	2.0	3.8	1.3	11.8	7.1	-0.8	3.0	5.3	8.2	6.9
	1952-66 (b)	3.8	4.9	8.2	6.4	5.9	4.8	6.4	9.4	7.4	6.0	4.2	7.7	9.2	7.5	2.7	4.6	5.9	8.7	7.1	3.7	3.4	7.1	5.7	5.9
AUTRICHE AUSTRIA	1953-55	20.0	-0.1	47	16.4	11.9	-	-	-	-	13.1	-	-	-	-	10.4	-	-	-	-	19.1	17.1	-4.4	46	23
	1955-60	-2.8	3.6	4.3	2.8	15.0	-	-	-	-	16.9	-	-	-	-	17.3	-0.9 (b)	1.3 (b)	2.1 (b)	1.3 (b)	18.7				
	1960-65	3.8	6.1	9.5	7.2	4.9	-	-	-	-	4.8	-	-	-	-	4.1	-	-	-	-	-1.3				
	1955-65	0.4	4.8	6.8	4.9	9.8	4.3 (c)	1.1 (c)	13.4 (c)	7.1 (c)	10.7	2.3 (c)	0.3 (c)	12.2 (c)	5.3 (c)	10.4	3.6 (c)	2.0 (c)	17.3 (c)	8.7 (c)	8.3	-1.8	4.7	4.3	3.9
BELGIQUE BELGIUM	1953-55	3.0	2.6	12.7	5.1	3.3																			
	1955-60	2.8	6.2	14.6	7.4	4.6																			
	1960-65	6.8	10.4	12.7	10.1	7.4																			
	1955-65	4.7	8.3	13.6	8.8	6.0																			
CANADA	1956-60	5.1	12.9	5.8	8.7	9.8																			
	1960-67	11.9	16.6	1.8	11.4	12.6																			
	1956-67	9.4	15.2	5.2	10.4	11.5																			
DANEMARK DENMARK	1950-55	2.5	1.8	7.7	4.9	-1.7																			
	1955-60	4.0	-10.1	16.1	9.6	9.1																			
	1960-65	5.2	14.9	21	18.4	14.0																			
	1955-65	4.6	1.6	18.7	13.9	11.6																			
ESPAGNE SPAIN	1951-55	3.2	7.6	2.5	3.8	2.1																			
	1955-59	3.8	9.5	8.0	7.6	7.1	4.0	7.7	0.3	3.4	14.9	-2.2	50	6.3	8.7	34	2.1	25	27	17.3	42	2.3	3.9	13.6	[illegible]
	1960-64	3.6	3.6	25	10.5	10.0	2.4	-3.3	4.1	1.5	10.5	3.2	13.9	43	26	33	3.5	14.3	36	22	16.5	2.2	1.3	36	[illegible]
ETATS-UNIS UNITED STATES	1955-60	5.0		[illegible]	5.5	5.8																			
	1960-65	7.5		[illegible]	7.7	9.7																			
	1955-65	6.5		7.6	6.5	7.5																			
FRANCE	1949-57						6.1	-2.4	3.2	2.1												1.[illegible]	3.8	[illegible]	[illegible]
	1957-60	3.6	10.6	22	14.0	5.1	8.1	17.5	29	23	8.7											3.5	[illegible]	33	[illegible]
	1960-65	4.3	13.2	25	18.8	14.1	7.3	9.7	20.0	17.2	12.4											2.7	[illegible]	[illegible]	[illegible]
	1957-65	3.9	12.2	24	17.0	10.6	7.6	12.6	23	19.5	10.9														
GRECE GREECE	1955-60	0.2	3.3	-	1.3 [1.2]	8.3 [7.3]	1.7	9.9	-	3.7	4.9						2.9	(d)	-	-6.1	12.5	1.8	[illegible]	-	[illegible]
	1960-65	1.9	9.7	-	5.1 [5.6]	16.1 [15.3]	0.7	6.2	-	2.6	24.						1.8	(d)	-	2.2	14.1	4.7	[illegible]	-	[illegible]
	1955-65	1.1	6.4	-	3.2 [3.4]	12.3 [11.2]	1.1	9.4	-	3.3	14.1						2.3	-25.4	-	-2.0	13.3	3.2	7.3	-	[illegible]
IRLANDE IRELAND	1950-55	0.6	-	5.3	3.8	2.1																			
	1955-60	1.3	-	5.6	4.4	6.4																			
	1960-64	2.2	-	9.1	7.5	6.3																			
	1955-64	1.7	-	7.2	5.8	6.4																			
ITALIE ITALY	1950-55	2.2	2.7	6.9	5.4	-1.9	4.4	4.3	8.1	6.5	-0.8	5.4	0.7	5.1	3.6	4.1	0.8	3.6	5.3	4.4	-4.0	2.0	2.3	7.2	[illegible]
	1955-60	0.5	8.1	9.9	6.5	4.8	1.2	8.6	6.0	6.4	5.6	1.0	2.5	12.5	9.1	6.5	1.3	10.4	10.5	9.7	4.1	0.6	7.0	6.1	[illegible]
	1960-65	5.4	2.0	5.6	5.1	8.7	6.9	5.2	10.8	8.8	9.8	3.6	-4.6	10.5	7.5	10.3	6.9	7.1	7.8	7.6	8.2	4.8	0.2	2.0	2.0
	1955-65	2.9	5.0	6.4	5.8	6.7	4.0	6.9	8.4	7.5	7.7	8.3	-1.1	11.5	8.3	8.4	4.1	8.7	9.1	8.6	6.1	2.6	3.5	4.0	[illegible]
JAPON JAPAN	1950-55	14.1 [14.4]	19.0 [20.0]	42 [41]	22 [22]	17.8 [10.2]					10.9										18.1				
	1955-60	3.5 [3.1]	3.8 [3.5]	2.1 [2.1]	3.3 [3.1]	4.2 [3.8]					12.8										2.4				
	1960-65	6.8 [7.8]	6.8 [7.6]	5.1 [5.5]	6.4 [7.2]	8.4 [8.9]					11.1					12.6					14.2				
	1955-65	5.2 [5.4]	5.4 [5.2]	3.6 [3.9]	4.9 [5.1]	6.2 [6.3]					12.0										8.2				
NORVEGE NORWAY	1956-60	2.9	-0.8	11.6	7.7	13.6	1.0	14.4	15.1	11.8	24						3.2	-	11.7	8.5	7.1	3.5	-10.9	0.9	-0.2
	1960-65	2.6	10.9	10.5	8.8	15.4	2.2	5.2	9.8	8.3	15.3						2.2	20.0	6.8	7.1	8.4	3.3	5.8	9.0	6.7
	1956-65	2.8	5.6	11.0	8.3	14.6	1.5	9.2	12.1	9.9	18.9						2.6	10.8	8.9	7.7	7.9	4.3	-0.2	[illegible]	[illegible]
PAYS-BAS NETHERLANDS	1950-55	3.9	7.6	-	5.2	-0.1	4.9	5.1	-	5.0	4.6						2.8	7.3	-	3.9	-2.0	1.9	11.9	-	[illegible]
	1955-58	5.4	3.1	-	4.6	5.8	5.6	2.3	-	4.3	8.0						11.9	15.6	-	12.8	9.6	1.6	1.8	-	[illegible]
	1950-58	4.5	5.9	-	4.9	2.1	5.2	4.0	-	4.7	5.8						6.1	10.3	-	7.1	2.2	[illegible]	8.0	-	[illegible]
PORTUGAL	1957-60				[2.6]	[6.2]				[7.6]	[14.8]									[-1.3]	[2.0]				[illegible]
	1960-65				[5.1]	[7.1]				[10.6]	[5.4]									[5.1]	[3.6]				[illegible]
	1957-65				[4.1]	[6.8]				[8.3]	[9.5]									[3.3]	[3.1]				[illegible]
ROYAUME-UNI UNITED KINGDOM	1950-55	2.7	6.2	-3.3	3.6																				
	1955-60	2.7	4.9	3.1	4.0	4.8	3.5	5.8	6.0	5.5	7.8						4.8	7.0	12.2	7.5	7.3	3.2	[illegible]	[illegible]	[illegible]
	1960-64	7.5	8.5	8.3	8.3	6.5	10.4	10.6	11.6	10.8	8.6						6.9	6.4	3.3	5.9	5.7	[illegible]	[illegible]	[illegible]	[illegible]
	1965-64	4.8	6.3	5.4	5.9	5.6	6.5	7.9	8.5	7.9	8.2						5.7	6.7	8.2	6.8	6.6	4.3	9.0	[illegible]	[illegible]
IRLANDE DU NORD NORTHERN IRELAND	1951-55	3.6	9.2	4.1	6.4	-0.9	3.0	14.8	2.5	7.2	3.6						41	29	-12.0	15.9	-0.2	[illegible]	[illegible]	12.0	[illegible]
	1955-60	1.7	6.6	-4.8	2.4	8.8	2.2	7.3	0.6	4.0	14.2						4.6	17.8	32	18.4	12.4	3.1	9.3	-5.0	[illegible]
	1960-64	4.4	10.9	10.6	10.1	6.7	6.8	15.3	0.7	9.6	5.7						8.8	15.2	7.5	12.4	6.2	[illegible]	[illegible]	[illegible]	[illegible]
	1955-64	3.4	8.5	1.8	5.8	7.9	4.2	10.8	0.7	6.5	10.3						6.4	16.7	20	15.7	9.6	3.3	[illegible]	-1.1	[illegible]
SUISSE SWITZERLAND	1950-55	1.1	2.7		1.9		1.2	3.1		2.0												2.1	2.8		[illegible]
	1955-60	2.5	2.7		2.6	4.9	3.3	3.6		3.5	4.7											2.7	2.1		[illegible]
	1960-65		1.3		0.6	1.1	2.6	1.4		2.1	13.1											-1.5	1.0		[illegible]
	1955-65	1.6	2.1		1.8	7.2	3.1	2.8		3.0	7.8											1.1	1.6		[illegible]
TURQUIE TURKEY	1950-55				4.8	6.9				3.5	10.6				6.3	9.7				6.6 [4.7]	8.8 [10.5]				[illegible]
	1955-60				5.9	8.0				4.2	8.8				2.0	5.6				3.0 [17.5]	7.6 [16.2]				[illegible]
	1960-65				8.4	6.6				15.6	7.2				11.6	5.2				11.5 [9.1]	13.3 [17.8]				[illegible]
	1955-65				7.1	7.3				9.7	8.0				6.7	5.4				7.2 [13.2]	10.4 [11.0]				[illegible]
YOUGOSLAVIE YUGOSLAVIA	1950-55		0.2 [2.4]	1.6 [1.6]	0.9 [2.0]	2.6 [3.1]		6.8	10.8	8.9	2.5							-0.9	4.9	2.0	2.5		1.8 [1.6]	-4.9 [-4.8]	[illegible]
	1955-60		2.7 [11.2]	11.6 [12.9]	9.8 [12.0]	10.8 [15.1]		9.7	8.1	8.8	2.9							7.0 [–]	13.0 [–]	10.6 [–]	14.0 [–]		9.0 [9.1]	12.5 [12.8]	[illegible]
	1960-65		12.5 [12.3]	3.9 [4.8]	7.7 [8.8]	1.4 [5.9]		7.7	2.8	5.1	8.1							14.7 [9.3]	6.5 [8.3]	9.8 [13.3]	3.8 [5.0]		8.6 [6.2]	1.9 [2.3]	[illegible]
	1955-65		9.9 [11.1]	5.6 [8.5]	8.7 [10.4]	6.5 [10.3]		8.7	5.4	6.9	6.5							10.8	9.7	10.2	8.8		8.8 [8.8]	7.0 [7.4]	[illegible]

Notes : (a) See notes on Table I.
(b) As the teachers of West-Berlin are excluded for 1952 in the breakdowns by field of specialisation, the annual rate of growth for teachers in these fields is partially overestimated. The comparison of the rate of growth between teachers and students is made difficult for the breakdowns by field of specialisation.
(c) The rates of growth concern the period 1953-1965.
(d) No ML teachers in 1960.
(e) 1955-1958 : see explanation on Table I.
(f) 1959-1964 : see explanation on Table I. A comparison of the rates before and after 1959 is not possible because of changes during that period in statistical methods (Social Sciences are included until 1958).

Notes : (a) Voir notes du t
(b) Du fait de l'ex
par branches, l
branches sont p
sont donc diffi
gations par bran
(c) Ces taux sont c
(d) Pas d'enseignant
(e) 1955-1958 : voir
(f) 1959-1964 : voir
comparables du
(sciences social

TABLE II : ANNUAL RATE OF GROWTH OF TEACHING STAFF (BY STATUS) AND STUDENT ENROLMENTS BY COUNTRY AND FIELD OF SPECIALISATION BETWEEN 1955 AND 1965 IN UNIVERSITY INSTITUTIONS (a)

TABLEAU II : TAUX ANNUEL MOYEN D'ACCROISSEMENT DES EFFECTIFS D'ETUDIANTS ET D'ENSEIGNANTS (PAR STATUT) ENTRE 1950 ET 1965 PAR PAYS ET BRANCHE DANS LES ETABLISSEMENTS DE TYPE UNIVERSITAIRE(a)

rs		Technology / Technologie					Medical Science/Sciences Médicales					Agriculture					Humanities / Lettres					Education					Fine Arts /	
	Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teaching Staff Enseignants				Stud. Etud.	Teachin Enseig	
T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM	JL/SI	T		SL/SS	ML/SM
5.8	3.5	5.9	10.3	7.5	8.1	7.8	[illegible]	9.2	4.7	5.9	9.5	6.3	11.0	6.8	8.1	0.3	4.0	4.6	11.7	5.5	11.0	-33.3	1.2	-5.9	-6.0	13.6		
11.1	2.0	3.8	1.3	11.8	7.1	-0.8	[illegible]	5.3	8.2	6.9	3.2	2.5	6.1	12.9	8.2	4.6	4.1	-0.7	15.7	5.0	4.7	90	10.8	-3.9	6.1	-3.6		
7.5	2.7	4.6	5.9	8.7	7.1	3.7	3.4	7.1	5.7	5.9	1.4	4.4	8.2	8.7	7.6	6.8	3.8	8.7	12.5	7.7	7.5	-16.0	4.8	-4.7	-0.9	5.5		
-	10.4	-	-	-	-	19.1	17.1	-4.4	46	23	18.5	23	-7.8	40	12.1	-3.3	26	0.1	36	12.9	18.9						8.0	6.9
-	17.3	-0.9	1.3	2.1	1.3	18.7					15.6	-5.2	3.8	[illegible]	1.1	10.3					17.1						8.4	4.1
		(b)	(b)	(b)	(b)																						11.4	11.5
-	4.1	-	-	-	-	-1.3					6.0	3.1	4.2	5.8	4.7	6.7					6.8						9.9	7.7
5.3	10.4	3.6	2.0	17.3	8.7	8.3	-1.8	4.7	4.3	3.9	10.7	-1.1	4.0	3.8	2.9	8.5	-0.8	5.7	11.5	6.1	11.8							
(c)		(c)	(c)	(c)	(c)																							
8.7	34	2.1	29	27	17.3	42	2.3	3.9	13.6	9.2	0.0	0.9	10.2	3.5	7.6	-2.0	4.7	8.5	-3.4	1.8	8.3							
26	33	3.5	14.3	36	22	16.5	2.2	1.3	36	4.7	5.8	[illegible]	-1.8	29	9.5	1.8	5.6	5.9	14.6	8.8	14.6							
							1.4	3.8	7.6	[illegible]	[illegible]						2.2	1.1	8.6	5.0								
							2.5	12.9	33	30	[illegible]						3.3	7.2	25	12.5	7.5							
							2.8	[illegible]	33	[illegible]	[illegible]						3.6	11.1	29	18.8	16.4							
																	[illegible]	9.6	27	16.4	13.0							
		2.9	(d)	-	-6.1	12.5	1.8	[illegible]	-	[illegible]	[illegible]	0.3	[illegible]	-	[illegible]	[illegible]	-7.0	[illegible]	-	-3.6	2.3					[illegible] [2.4]	3.7	
		1.8	(d)	-	2.2	14.1	3.7	[illegible]	-	[illegible]	[illegible]	1.2	16.9	-	6.0	27	-7.7	14.8	-	10.2	14.4					15.5 [5.7]	-3.6	
		2.3	-25.4	-	-2.0	13.3	5.2	7.3	-	6.0	[illegible]	[illegible]	17.0	-	4.6	17.5	0.1	10.9	-	3.1	9.0					6.6 [1.2]	0.0	
3.6	4.1	0.8	3.6	5.3	4.4	-4.0	2.0	2.3	7.2	6.6	-0.7	1.5	3.6	6.1	4.8	-6.6	2.9	1.1	4.3	3.6	-3.9							
9.1	6.5	1.3	10.4	10.5	9.7	4.1	0.6	7.0	6.1	5.8	-3.2	2.0	0.3	4.2	3.0	-2.8	-0.8	14.7	7.3	7.6	7.0							
7.5	10.3	6.9	7.1	7.8	7.6	8.2	4.8	0.2	2.0	2.0	4.0	3.3	-0.7	4.8	3.4	3.7	5.8	0.5	6.8	5.4	17.6							
8.3	8.4	4.1	8.7	9.1	8.6	6.1	2.6	3.5	4.0	3.9	0.3	2.7	-0.1	4.5	3.2	0.4	2.4	7.3	7.0	6.5	12.2							
						18.1					17					20.0					24					11.6		
						2.4					[illegible]					2.2					4.7					-1.0		
	12.6					14.2					5.6					5.8					8.2					1.6		
						8.2					3.7					4.0					6.5					0.3		
		3.2	-	11.7	8.5	7.1	3.5	-10.9	0.9	-0.2	3.1	0.6	3.4	4.3	3.1	5.5	0.4		19.0	10.2	19.3							
		2.2	20.0	6.8	7.1	8.4	3.3	5.8	9.0	6.7	7.1	0.3	17.6	14.7	11.4	5.8	2.1	7.4	8.4	6.6	21	[illegible]	8.5	15.5	12.6			
		2.6	10.8	8.9	7.7	7.9	4.3	-0.2	[illegible]	3.5	3.3	0.5	11.1	10.0	7.7	5.7	1.3	4.0	13.0	8.2	20.0							
		2.8	7.3	-	3.9	-2.0	[illegible]	11.9	-	[illegible]	-3.0	4.4	3.7	-	4.1	-4.6	2.8	8.0		4.4	8.0							
		11.9	15.6	-	12.8	9.6	[illegible]	1.5	-	3.3	-1.7	3.1	2.3	-	2.8	2.3	4.8	9.5		4.6	11.7							
		6.1	10.3	-	7.1	[illegible]	[illegible]	6.0	-	[illegible]	-3.1	3.9	3.2	-	3.6	2.0	3.3	5.6		4.5	9.4							
					[-1.3]	[2.0]				[illegible]	[illegible]				[illegible]	[7.1]				[-1.1]	[5.0]				[6]	[23]		
					[6.1]	[3.6]				[3.2]	[3.3]				[1.2]	[illegible]				[4.3]	[9.1]				[4.1]	[10.6]		
					[3.3]	[3.1]				[illegible]	[illegible]				[illegible]	[illegible]				[1.0]	[1.9]				[26]	[16.8]		
		4.8	7.0	12.2	7.5	7.3	3.2	[illegible]	[illegible]	3.1	[illegible]	[illegible]	[illegible]	-1.3	1.6	[illegible]	0.9(e)	2.7(e)	-1.5(e)	[illegible](e)	[illegible](e)							
		6.9	6.4	3.3	5.9	5.7	[illegible]	3.3	[illegible]	[illegible]	1.5	[illegible]	[illegible]	-0.1	[illegible]	1.1	[illegible](f)	3.9(f)	9.7(f)	[illegible](f)	5.4(f)							
		5.7	6.7	8.2	6.8	6.6	4.3	5.0	[illegible]	4.1	0.2	[illegible]	[illegible]	[illegible]	[illegible]	1.3												
		41	29	-12.0	15.9	-0.2	[illegible]	[illegible]	12.0	13.2	-4.8	0.0	[illegible]	[illegible]	[illegible]	-7.3	2.7	7.2	1.8	[illegible]	[illegible]	0.0	10.7		0.0	4.9		
		4.6	17.8	12	18.4	12.4	3.1	[illegible]	[illegible]	[illegible]	0.6	0.0	[illegible]	[illegible]	0.0	[illegible]	0.0	[illegible]	0.0	3.8	[illegible]	0.0	0.0		0.0	4.0		
		8.8	15.2	7.5	12.4	6.2	[illegible]	[illegible]	[illegible]	0.2	2.1	0.0	[illegible]	[illegible]	[illegible]	3.0	[illegible]	[illegible]	12.0	3.5	[illegible]	0.0	18.9		15.0	24		
		6.4	16.7	20	15.7	9.6	3.3	[illegible]	-1.1	3.0	2.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2.0	4.9	3.1	4.5	[illegible]	0.0	8.0		6.4	12.6		
							2.1	2.8		2.5	-0.9						-0.1	3.1		1.3	1.7							
							2.7	2.1		2.4	0.2						1.8	2.1		1.9	8.2							
							-1.5	1.0		-0.2	7.1						-2.5	0.8		-1.1	9.5							
							1.1	1.6		1.4	2.7						0.2	1.6		0.8	8.7							
6.3	9.7				6.6 [4.7]	8.8 [10.5]				5.6	-1.0				9.4	3.7				2.8 [3.3]	-2.6				2.5 [0.9]	-4.3 [1.3]		
2.0	5.6				3.0 [17.5]	7.6 [16.2]				13.5	5.4				13.5	20.0				6.4 [9.5]	28				13.0 [10.6]	21 [21]		
11.6	5.2				11.5 [9.1]	13.3 [17.8]				9.5	[illegible]				1.4 [13.9]	3.4 [17.4]				1.8 [6.3]	10.1				10.3 [4.6]	17.2 [16.5]		
6.7	5.4				7.2 [13.2]	10.4 [17.0]				11.5	9.8				9.5	11.3				4.1 [4.8]	18.7				11.6 [7.6]	17.3 [18.8]		
			-0.9	4.9	2.0	2.5		1.8 [1.6]	-4.9 [-4.8]	-3.1 [-2.8]	-2.4 [-1.5]		1.6	-5.3	-2.1	10.1		-0.1	17.9	7.5	11.2		-12.4 [6.2]	3.9 [3.1]	-4.2 [4.9]	-1.3 [8.0]		-2.0
			7.0 [-]	11.0 [-]	10.6 [-]	14.0 [-]		9.0 [9.1]	12.5 [12.8]	11.4 [11.6]	5.8 [6.4]		7.3 [-]	9.2	8.3	21		5.5	14.1	10.5	1.8		19.8 [5.5]	5.6 [11.5]	11.7 [6.0]	18.8 [7.3]		3.9
			14.7 [9.3]	6.5 [8.3]	9.8 [13.3]	3.8 [5.0]		8.6 [6.2]	1.9 [2.3]	4.0 [4.3]	2.2 [3.9]		7.3 [illegible]	3.2 [4.9]	5.3 [5.9]	-6.9 [-5.1]		13.8	-2.3	4.6	-2.2		40 [12.3]	26 [30]	34 [15.2]	42 [22]		5.7
			10.8	9.7	10.2	8.8		8.8 [8.8]	7.0 [7.3]	7.6 [7.9]	4.0 [5.2]		7.3 [-]	3.3 [-]	6.8 [-]	6.1 [-]		9.5	5.5	7.5	-0.2		30 [8.8]	15.4 [22]	23 [10.5]	29 [14.2]		4.8

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Notes : (a) Voir notes du tableau I.
(b) Du fait de l'exclusion des enseignants de Berlin-Ouest en 195[illegible] dans les désagrégations par branches, les taux annuels moyens d'accroissement du nombre des enseignants dans ces branches sont partiellement surestimés. Les taux d'accroissement du nombre des étudiants sont donc difficilement comparables à ceux du nombre des enseignants dans les désagrégations par branches.
(c) Ces taux sont ceux de la période 1955-1965.
(d) Pas d'enseignants SL en 1960.
(e) 1955-1958 : voir explications tableau I.
(f) 1959-1964 : voir explications tableau I. Les taux avant et après 1959 ne sont pas comparables du fait des modifications intervenues alors dans la composition statisti (sciences sociales incluses jusqu'en 1958).

STUDENT ENROLMENTS BY COUNTRY AND FIELD OF SPECIALISATION
VERSITY INSTITUTIONS (a)

S ET D'ENSEIGNANTS (PAR STATUT) ENTRE 1950 ET 1965 PAR PAYS
ENTS DE TYPE UNIVERSITAIRE(a)

Agriculture				Humanities / Lettres					Education					Fine Arts / Beaux Arts					Law / Droit					Social Sciences/Sciences sociales						
ching Staff seignants			Stud.	Teaching Staff Enseignants				Stud.	Teaching Staff Enseignants				Stud.	Teaching Staff Enseignants				Stud.	Teaching Staff Enseignants				Stud.	Teaching Staff Enseignants				Stud.		
L/SM	JL/SI	T	Etud.	SL/SS	ML/SM	JL/SI	T	Etud.	SL/SS	ML/SM	JL/SI	T	Etud.	SL/SS	ML/SM	JL/SI	T	Etud.	SL/SS	ML/SM	JL/SI	T	Etud.	SL/SS	ML/SM	JL/SI	T	Etud.	SL/SS	ML/SM
.0	6.8	8.1	0.3	4.0	4.6	11.7	5.5	11.0	-33.3	1.2	-5.9	-6.0	13.6						4.3	3.3	8.6	5.0	5.6	7.8	7.9	13.1	9.4	5.2		
.1	12.9	8.2	4.6	4.1	-0.7	15.7	5.0	4.7	90	10.8	-3.9	6.1	-3.6						4.5	-9.8	16.7	5.6	4.9	6.1	4.2	17.4	7.9	9.8		31
.2	8.7	7.6	6.8	3.8	8.7	12.5	7.7	7.5	-16.0	4.8	-4.7	-0.9	5.5						4.1	-2.3	11.2	4.9	4.9	6.6	2.4	13.8	8.1	6.5		
.8	40	12.1	-3.3	26	0.1	36	12.9	18.9						8.0	6.9	-33.3	5.0	-7.3	24	-14.1	70	7.8	8.0	39	-2.2	65	11.9	11.9		
.8	1.	1.1	10.3					17.1						8.4	4.1	-2.6	4.3	1.6					13.8	-8.5	4.1	0.0	1.0	12.2		
.2	5.8	4.7	6.7					6.8						11.4	11.5	0.0	11.3	7.1					5.2	4.6	-3.1	17.8	3.1	4.8		
.0	3.8	2.9	8.5	-0.8	5.7	11.5	6.1	11.8						9.9	7.7	-1.3	7.8	4.3	0.2	1.6	12.4	4.6	9.4	-2.3	0.4	8.6	2.1	8.4		
.2	3.5	7.6	-2.0	4.7	5.5	-3.4	1.8	8.3											2.8	6.9	3.9	4.5	-4.0	40	11.2	17.9	18.8	26		
.6	29	9.8	[illegible]	5.6	5.9	14.6	8.8	14.6											2.5	1.6	80	5.8	0.3	7.1	-6.0	6.7	1.5	14.6		
				2.2	[illegible]	8.6	[illegible]												36	15.5										
				3.3	[illegible]	25	12.5	7.5											3.0	14.0	22	11.1	0.0							
				3.6	11.1	29	16.8	16.4											4.6	9.2	26	14.8	18.0							
				[illegible]	[illegible]	27	16.4	13.0											3.9	10.9	25	13.4	10.9							
.1	-	3.2	13.7	-7.0	[illegible]	-	-3.6	2.3					[illegible] [-2.4]	3.7			3.7	[illegible]	2.8	-1.0		-1.0	[illegible]	-0.6	38		0.2	12.0		
.8	-	6.0	27	-7.7	14.8	-	10.2	14.4					18.5 [illegible]	-3.6			4.6	7.2	1.5	9.1		4.6	13.6	-1.7	26		1.2	13.5		
.0	-	4.6	17.6	0.1	10.9	-	3.1	9.0					6.6 [1.2]	0.0			4.1	3.9	2.2	1.3		1.8	11.5	-1.3	32		0.7	12.9		
.6	6.1	4.8	-6.6	2.9	1.1	4.3	3.6	-5.9											0.2	0.2	5.2	3.3	3.0	3.5	2.6	6.9	5.5	2.0		
.3	4.2	3.0	-2.8	-0.8	14.7	7.3	7.6	7.0											0.9	7.2	7.9	6.1	1.9	1.5	6.7	8.4	7.3	12.6		
.7	4.8	3.4	3.7	5.8	0.5	6.8	5.4	17.6											3.9	-3.5	9.3	7.0	-2.3	7.0	-2.6	8.4	7.1	8.7		
.1	4.5	3.2	0.4	2.4	7.3	7.0	6.5	12.2											1.5	1.7	8.5	6.5	-0.3	4.2	1.9	8.9	7.2	10.6		
			20.0					24					11.6					26										17.5		
			2.2					4.7					-1.0					9.6										4.7		
			5.8					8.2					1.6					11.4										3.3		
			4.0					6.5					0.3					5.6										4.0		
.4	4.3	3.1	5.5	0.4		19.0	10.2	19.3											3.6	19.0	23.0	14	4.7	2.4	-11.9	[illegible]	[illegible]	[illegible]		
.5	14.7	11.4	5.8	2.1	7.4	8.4	6.6	21	[illegible]	8.5	15.5	12.6							-6.0	-14.9	3.2	-0.2	14.4	16.9	40	35	31	28		
.1	10.0	7.7	5.7	1.3	4.0	13.0	8.2	20.0											1.9	-4.4	11.7	4.9	10.0	10.2	13.8	23	16.9	18.4		
.7	-	4.1	-4.6	2.8	8.0		4.4	8.0											4.1	5.3		4.4	-4.9	4.3	8.8	-	5.8	0.3		
.3	-	2.8	2.3	1.8	9.5		4.6	11.7											1.7			1.3	1.1	3.2	-4.6	-	0.4	3.5		
.2	-	3.6	2.0	3.5	6.6		4.5	9.4											3.2	2.3		3.2	-2.6	3.7	3.6	-	3.7	1.5		
		[3.6]	[7.1]				[-1.1]	[5.9]				[63]	[28]				[-12.7]	[3.1]					[6.0]				[-0.9]	[12.3]		
		[1.3]	[3.6]				[4.3]	[9.1]				[7.1]	[10.6]				[8.3]	[-0.3]				[2.9]	[2.8]				[8.8]	[19.5]		
		[illegible]	[6.3]				[1.0]	[7.9]				[26]	[16.8]				[-0.1]	[0.8]				[1.8]	[4.0]				[4.8]	[15.8]		
[illegible]	-1.3	1.6	[illegible]	0.0(e)	2.7(e)	-1.5(e)	[illegible](e)	[illegible](e)																						
[illegible]	0.7	[illegible]	1.1	[illegible](f)	3.9(f)	9.7(f)	3.3(f)	3.4(f)																						
[illegible]	[illegible]	[illegible]	[illegible]																					12.5	15.6	21	16.1	10.1		
[illegible]	[illegible]	[illegible]	-7.3	2.7	7.2	1.8	4.9	[illegible]	0.0	10.7		0.0	4.9						0.0	7.5	0.0	3.9	2.9	0.0	7.5	41	11.8	2.5	0.0	-3.6
[illegible]	[illegible]	[illegible]	11.9	0.0	[illegible]	0.0	5.4	[illegible]	0.0	0.0		0.0	4.0						0.0	8.4	0.0	5.1	4.4	0.0	10.2	17.6	11.4	11.9	0.0	3.1
[illegible]	14.2	[illegible]	3.0	[illegible]	[illegible]	12.0	3.3	[illegible]	0.0	18.9		15.0	24						10.7	-9.7	0.0	-2.9	14.9	10.7	0.0	0.0	1.0	5.9	0.0	-3.8
[illegible]	[illegible]	[illegible]	0.0	2.0	4.9	3.1	4.5	[illegible]	0.0	8.0		6.4	12.6						4.6	0.0	0.0	1.5	9.0	4.6	5.5	9.4	6.6	9.2	0.0	0.0
				-0.1	3.1		1.3	1.7											2.5	1.4		1.7								
				1.8	2.1		1.9	8.2											1.8	2.7		2.2	9.4							
				-2.5	0.8		-1.1	9.5											0.2	2.1		1.1	12.2							
				0.2	1.6		0.8	8.7											1.2	2.5		1.8	8.2							
		9.4	3.7				2.8 [3.3]	-2.6				2.5 [0.9]	-3.3 [3.3]				3.5	6.6				3.0	15				1.8 [6.9]	5.5 [11.6]		
		13.5	20.0				6.4 [9.5]	26				13.8 [10.6]	21 [21]				-1.9	8.5				2.6	2.1				11.8 [10.9]	1.8 [19.0]		
		1.4 [13.9] 5.5	3.4 [17.4] 11.1				1.8 [6.3]	10.1				10.3 [4.6]	14.2 [16.5]				14.8	13.1				7.3	-2.1				5.8 [4.5]	2.1 [7.5]		
							4.1 [4.8]	18.7				11.6 [7.6]	17.3 [18.8]				6.1	10.8				4.9	0.9				8.8 [7.5]	6.7 [13.1]		
1.6	-5.3	-2.1	10.1		-0.1	17.9	7.5	11.2		-12.4 [6.2]	3.9 [3.1]	-4.2 [14.9]	-1.1 [8.0]		-2.0	18.9	1.4	1.8		10.1	8.5	9.5	14.6		-12.1 [-10.2]	1.9 [-]	-6.9 [-6.1]	-1.7 [-9.0]		
7.3 [-]	9.2	8.3	21		5.5	14.1	10.5	1.8		19.8 [5.6]	5.6 [11.5]	11.7 [6.0]	18.8 [7.3]		3.9	1.4	3.3	2.5		1.3	6.5	3.2	19.0		19.8 [4]	13.7 [-]	17.4 [4]	22 [18]		
[illegible]	3.2 [4.0]	2.3 [5.9]	-6.9 [-5.1]		13.8	-2.3	4.6	-2.2		40 [12.3]	26 [30]	34 [15.2]	42 [22]		5.7	2.2	4.9	7.3		15.5	7.3	12.4	-0.9		22 [9.0]	9.0 [0.1]	17.4 [6.1]	0.1 [5.8]		
1.3 [-]	1.3 [-]	6.8 [-]	6.1 [-]		9.5	5.5	7.3	-0.2		30 [8.8]	15.4 [23]	23 [10.5]	29 [14.2]		4.8	1.8	4.1	4.9		3.2	6.9	7.8	8.7		21 [22]	12.1 [-]	17.4 [2]	10.6 [21]		

s de Berlin-Ouest en 1959 dans les désagrégations
d'accroissement du nombre des enseignants dans ces
s. Les taux d'accroissement du nombre des étudiants
ceux du nombre des enseignants dans les désagré-

-1965.

I.
I. Les taux avant et après 1959 ne sont pas
s intervenues alors dans la composition statisti
1958).

TABLE III : STRUCTURAL CHANGES IN UNIVERSITY TYPE TEACHING STAFF BY STATUS, FIEL

TABLEAU III : MODIFICATIONS STRUCTURELLES DU CORPS ENSEIGNANT UNIVERSITAIRE E

		Total			Pure Science Sciences Pures			Architecture			Technology Technologie			Medical Science Sciences Médicales			Agriculture		
		S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I
ALLEMAGNE / GERMANY	1952 (b)	24.0	36.9	39.1	23.7	38.4	37.9	32.1	26.6	41.3	22.7	30.2	47.1	12.1	28.2	59.7	26.3	32.3	41.
	1960	20.4	39.3	40.3	20.6	39.0	40.4	28.0	24.2	47.8	19.3	35.6	45.1	9.4	36.4	54.2	22.9	39.7	37.
	1966	17.6	31.3	51.1	16.4	33.5	50.1	20.1	27.6	52.3	15.9	25.6	58.5	8.4	33.3	58.3	16.6	35.2	48.
AUTRICHE / AUSTRIA	1953	17.8	58.9	23.3	18.9	50.3	30.8	21.0	52.2	26.8	24.8	49.7	25.5	11.7	43.6	44.7	19.9	55.1	25.
	1955	19.1	43.5	37.4							16.7(c)	34.8(c)	48.5(c)	10.6	26.3	63.1	24.0	37.2	38.
	1960	14.4	45.3	40.3							15.0(c)	34.7(c)	50.3(c)				17.4	42.5	40.
	1965	12.3	43.0	44.7	13.9	25.2	60.9	14.9	27.7	57.4	13.9	23.1	63.0	6.0	28.4	65.6	16.2	41.5	42.
BELGIQUE / BELGIUM	1953	41.9	35.8	22.															
	1955	40.2	34.2	25.6															
	1960	32.3	32.3	35.4															
	1965	27.6	32.7	39.7															
CANADA	1956	16.8	39.6	43.5															
	1960	14.8	46.2	39.1															
	1967	15.3	63.9	20.9															
DANEMARK / DENMARK (e)	1950	28.3	23.2	48.5															
	1955	25.1	19.8	55.1															
	1960	19.3	7.3	73.4															
	1965	10.7	6.3	83.0															
ESPAGNE / SPAIN (f)	1951	20.6	22.8	56.6				47.9	7.0	45.1	39.8	2.4	57.8						
	1955	20.1	26.3	53.6	15.5	32.1	52.4	46.2	7.6	46.2	44.3	20.0	35.7	16.6	30.4	53.0	23.2	25.3	51.
	1959	17.4	28.2	54.3	15.8	37.7	46.5	30.3	27.5	42.2	25.5	26.1	48.4	12.8	24.9	62.3	17.9	38.1	44
	1960	27.1	46.4	26.5	19.7	43.9	36.4	18.5	43.2	38.3	26.5	34.5	39.0	32.4	61.8	5.8	23.5	52.6	23
	1964	21.0	35.9	43.1	21.1	37.2	41.7	8.3	28.7	63.0	13.5	26.1	60.4	29.4	54.2	16.4	20.6	34.1	45
ETATS-UNIS / UNITED STATES (g)	1955		[86.8]	[13.2]															
	1960		[85.8]	[14.2]															
	1965		[85.0]	[15.0]															
FRANCE	1949				11.9	31.2	56.9												
	1957	29.2	25.9	44.9	16.2	21.7	62.1							34.5	26.3	39.2			
	1960	21.8	23.6	54.6	10.8	18.6	70.6							31.2	26.6	42.2			
	1965	11.3	18.5	70.2	7.0	13.4	79.6							12.9	22.7	64.4			
GRECE / GREECE	1955	66.4	33.6		77.3	22.7					63.5	36.5		36.6	63.4		86.8	13.2	
	1960	63.0	37.0		70.0	30.0					100.0			29.9	70.1		75.3	24.7	
	1965	54.2	45.8		59.3	40.7					97.6	2.4		28.2	71.8		59.7	40.3	
IRLANDE / IRELAND	1950	34.2		65.8															
	1955	29.4		70.6															
	1960	25.3		74.7															
	1964	20.6		79.4															
ITALIE / ITALY (i)	1950	12.2	17.7	70.1	12.0	32.9	55.1	6.4	35.0	58.6	12.3	20.7	67.0	7.5	6.8	85.7	14.1	28.7	57.
	1955	10.4	15.6	74.0	10.8	29.8	59.4	6.9	30.4	62.7	10.4	19.9	69.7	6.0	5.3	88.4	12.0	27.0	61
	1960	7.8	16.8	75.4	8.3	33.0	58.5	4.7	22.2	73.1	7.0	20.6	72.4	4.7	5.8	89.5	11.3	24.9	63.
	1965	8.4	15.4	76.2	7.7	27.9	64.4	3.9	12.2	83.9	6.8	20.1	73.1	5.3	5.4	[illegible]	[illegible]	19.5	69.
JAPON / JAPAN	1950	30.2 [30.0]	57.1 [58.6]	12.7 [11.4]															
	1955	21.6 [21.9]	51.0 [54.6]	27.1 [23.5]															
	1960	22.1 [21.9]	52.4 [55.5]	25.5 [22.6]															
	1965	22.5 [22.1]	53.5 [56.7]	24.0 [20.9]															
NORVEGE / NORWAY	1956	30.6	12.5	56.9	25.9	7.3	66.8				26.7	10.1	63.2	27.2	21.9	47.9	32.5	5.7	61
	1960	25.5	8.9	65.6	17.2	7.9	74.9				21.6	7.3	70.9	34.0	13.8	50.2	29.5	5.8	64
	1965	19.1	9.9	71.0	12.9	6.9	80.2				17.3	13.0	69.7	28.9	15.2	55.9	17.6	7.3	74
PAYS-BAS/NETHERLANDS	1950	67.6	32.4		59.6	40.4					78.5	21.5		60.6	39.4		58.8	41.2	
	1955	63.7	36.3		59.3	40.7					74.7	25.3		53.9	46.1		59.6	40.4	
	1958	65.2	34.8		61.6	38.4					72.8	27.2		55.9	44.1		60.0	39.8	
ROYAUME-UNI/ UNITED KINGDOM	1950	14.5	56.0	29.5															
	1955	13.9	63.9	22.2	12.6	65.5	21.9				11.1	74.9	14.0	14.3	60.9	24.8	6.9	43.0	50
	1960	13.1	65.6	21.3	11.4	66.2	22.4				9.7	73.0	17.3	14.4	[illegible]	22.2	7.2	49.2	43.
	1964	12.7	66.1	21.2	11.2	65.7	23.1				10.1	74.2	15.7	14.5		19.9	7.5	52.8	39
IRLANDE DU NORD/ NORTHERN IRELAND	1951	17.6	44.7	37.7	14.3	33.9	51.8				10.0	40.0	50.0	22.0		28.0	13.2	28.9	57
	1955	15.7	49.7	34.6	12.2	44.6	43.2				22.2	61.1	16.7	14.6	[illegible]	26.8	13.5	59.5	27
	1960	15.2	60.8	24.0	11.1	52.2	36.7				11.9	59.5	28.6	13.2	[illegible]	[illegible]	13.5	59.5	27
	1964	12.8	62.5	24.7	10.0	63.8	26.2				10.4	65.7	23.9	14.9	66	8.7	10.9	52.2	3
SUEDE / SWEDEN (g)	1965	42.8	14.1	43.1				35.4	7.9	56.7	33.2	1.6	65.2	43.7	19.8	36.5	40.9	35.0	24
SUISSE/ SWITZERLAND	1950	57.1	42.9		(m) 60.2	39.8								49.7	50.3				
	1955	55.3	44.7		58.1	41.9								48.8	51.2				
	1960	55.1	44.9		57.8	42.2								49.6	50.4				
	1965	54.2	45.8		58.6	41.4								47.8	52.2				
YOUGOSLAVIE/ YUGOSLAVIA	1950		47.1 [50.4]	52.9 [49.6]		47.7	52.3					50.3	49.7		25.1 [28.[illegible]]	74.9 [71.[illegible]]		42.4	57
	1955		45.5 [51.4]	54.5 [48.6]		43.2	56.8					43.2	56.8		32.1 [35.[illegible]]	67.9 [64.[illegible]]		51.0	49
	1960		40.7 [39.5]	59.3 [60.5]		45.0	55.0					36.7 [illegible]	63.3 [59.[illegible]]		28.8 [31.7]	71.2 [68.3]		48.8 [51.[illegible]]	51
	1965		50.5 [58.0]	49.5 [42.0]		50.8	49.2					45.7 [52.[illegible]]	54.3 [47.[illegible]]		35.7 [38.5]	64.3 [61.5]		53.6 [58.0]	

Notes : (a) See notes on Table I / Voir notes du Tableau I.
(b) For this year, West-Berlin is not included, except in the total / Po
(c) Includes Technology, Pure Science and Architecture / Comprend Techno
(d) Includes Humanities, Medical Sciences and Law / Comprend les Lettres
(e) See note "j" on Table I / Voir note "j" du Tableau I.
(f) See notes "k" and "l" on Table I / Voir notes "k" et "l" au Tableau
(g) Concerns all higher education / Concerne l'ensemble de l'enseignemen
(h) See notes "q" and "r" on Table I / Voir notes "q" et "r" du Tableau
(i) For Italy, all higher education is considered to be university type
considéré comme universitaire.
(j) 1958.
(k) 1959.
(l) Included in Humanities / Compris dans Lettres.
(m) See notes "I", "J" and "K" on Table I / Voir notes "I", "J" et "K" d

TUS, FIELD OF SPECIALISATION AND COUNTRY BETWEEN 1950 AND 1965 (a)
RSITAIRE ENTRE 1950 et 1965 PAR PAYS, BRANCHE ET STATUT (a)

Percentages : total university type teaching staff = 100 %
Pourcentages: total du corps enseignant universitaire = 100 %

re		Humanities Lettres			Education			Fine Arts Beaux Arts			Law Droit			Social Science Sciences Sociales			Others Autres		
.L. .M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.	S.L. S.S.	M.L. S.M.	J.L. S.I.
8	41.4	34.5	53.1	12.4	27.8	32.0	40.2				43.4	35.9	20.7	31.0	43.0	26.0			
7	37.4	30.9	49.5	19.1	1.7	57.6	40.7				41.2	31.6	27.2	27.5	38.6	33.9			
2	48.2	29.2	35.4	35.4	2.4	75.0	22.6				38.5	12.2	49.3	24.9	18.9	56.2			
1	25.0	21.9	61.5	16.6				7.9	86.1	6.0	28.9	62.2	8.9	14.3	76.9	8.8	14.0	29.7	70.3
2	38.8	27.4	48.4	24.2				8.4	89.2	2.4	38.2	39.5	22.3	21.9	58.8	19.3		57.9	28.1
3	40.1	14.8(d)	39.8(d)	45.4(d)				10.2	88.1	1.7				13.4	68.3	18.3			
5	42.3	13.9	46.5	39.6				10.2	88.8	1.0	24.7	29.6	45.7	14.3	50.0	35.7			
3	51.5	19.6	25.7	54.7							16.5	21.5	62.0	7.5	23.0	69.5			
1	44.0	22.0	33.4	44.6							15.5	23.7	60.8	14.7	17.7	67.6			
6	23.9	30.2	38.9	30.9							39.6	58.5	1.9	19.7	46.1	34.2			
1	45.3	26.9	35.0	38.1							34.9	49.8	15.3	24.3	33.9	41.8			
			(h)									(h)							
		43.9	30.3	25.8							50.0	21.9	25.1						
		32.9	35.6	31.5							39.7	26.8	33.5						
		25.5	31.3	43.2							25.0	20.9	54.1						
		12.8	22.3	64.9															
.2		51.1	18.9					100			[illegible]	47.8		98.7	1.3				
.7		68.0	32.0					100			63.3	36.7		93.7	6.3				
.3		60.7	39.3					66.7	33.3		54.7	45.3		81.0	19.0		51.7	48.3	
.7	57.2	15.9	18.3	65.8							25.0	13.2	59.0	11.0	[illegible]	61.4			
.0	61.0	15.4	16.3	68.3							32.3	15.1	[illegible]	[illegible]	21.5	53.7			
.9	63.8	10.3	22.1	67.3							15.9	13.8	70.3	9.7	20.8	69.4			
.5	69.1	10.1	17.5	72.0							13.7	8.2	78.1	9.7	13.0	77.3			
.7	61.8	13.4	9.8	16.8							30.0	11.9	38.5	30.3	15.2	54.5			
.0	64.7	29.9	6.6	53.5	22.6	12.8	[illegible]				33.1	13.6	53.3	27.5	7.5	65.0			
.5	74.9	24.1	5.8	39.1	16.1	10.7	73.2				27.5	9.0	57.5	13.3	10.2	74.1			
.2		70.9	29.1								75.0	21.0		67.2	32.8				
.4		65.5	34.5								75.0	25.0		62.3	37.7				
.6		55.9	34.1								76.0	24.0		67.7	32.3				
.0	50.1	17.0	64.8	18.2	(l	(l	l)												
		16.6 (j)	66.9 (j)	15.5 (j)															
.2	43.6	16.2 (k)	67.7 (k)	16.1 (k)	(l)	(l)	(l)												
2.8	39.7	14.8	66.3	18.0	(l)	(l)	(l)							15.1	64.3	19.1			
														14.5	63.1	22.1			
.0	57.9	19.1	53.2	27.7	25.0	50.0	25.0				33.3	30.0	16.7	22.2	56.7	11.1	[illegible]	27.5	
.5	27.0	17.5	57.9	24.6	25.0	75.0					[illegible]	57.1	14.3	11.3	57.1	[illegible]	[illegible]	53.7	
.5	27.0	13.5	67.6	18.9	25.0	75.0					22.2	66.7	11.1	9.3	34.2	37.5	12.5	57.5	
.2	36.9	14.1	60.0	25.9	14.3	85.7					37.5	50.0	12.5	12.0	52.0	35.0	[illegible]	[illegible]	
.0	24.1	37.6	21.7	20.7	25.0	62.5	12.5	15.8	79.3	4.9	79.1	4.6	16.3	30.3	15.2	34.3			
			(m)									(m)							
		51.5	38.5								54.1	45.9							
		57.9	42.1								54.9	45.1							
		57.5	42.1								53.3	46.7							
		55.2	44.8								52.4	47.6							
	57.6	65.7		34.3	57.9 [87.9]		42.1 [12.1]	88.8		11.2	63.3		36.7	68.3 [74.3]		31.7 [25.7]			
	49.0	45.4		54.6	36.9 [93.8]		63.1 [7.0]	75.1		24.9	65.1		34.9	50.3 [61.6]		49.7 [38.4]			
]	51.2 [48.2]	36.0		64.0	52.5 [91.0]		47.5 [9.0]	77.4		22.6	59.2		40.8	55.7 [71.6]		44.3 [28.4]			
]	36.4 [52.9]	54.7		45.3	65.5 [79.8]		34.5 [20.2]	80.2		19.8	67.8		31.2	68.6 [79.4]		31.4 [20.6]			

otal / Pour cette année Berlin-Ouest n'est pas inclus, sauf dans le total.
nd Technologie, Sciences pures et Architecture.
s Lettres, Sciences médicales et Droit.

Tableau I.
seignement supérieur.
Tableau I.
ity type higher education / Pour l'Italie, tout l'enseignement supérieur est

' et "K" du Tableau I.